SONY

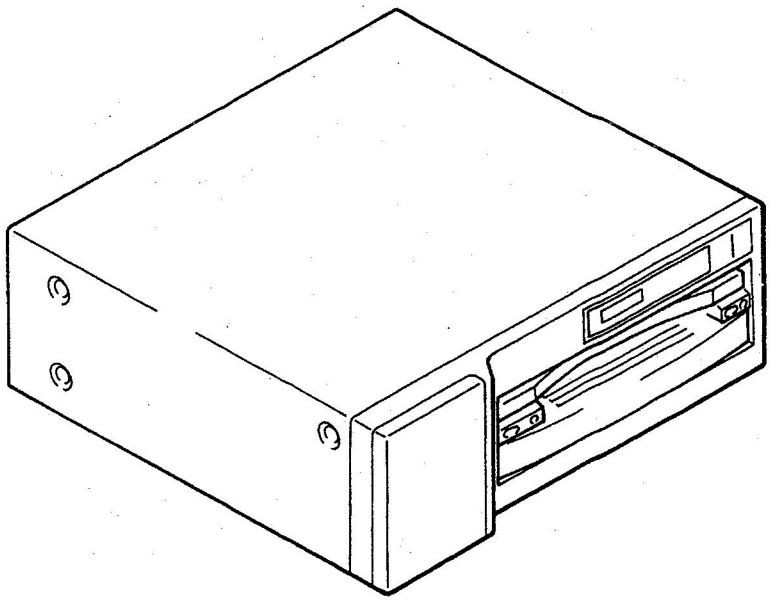
DIGITAL COLOR PRINTER

UP-D8800

UPK-8800SC

UPK-8801

SERVICE MANUAL



SAFETY RELATED COMPONENT WARNING

Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

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CONTENTS

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. SPECIFICATIONS

Power requirements	120V AC, 50/60Hz (UC) 220 to 240V AC, 50/60Hz (EK)
Power consumption	Maximum 270 W (UC) Maximum 260 W (EK)
Operating temperatures	5°C to 35°C
Dimensions	Approx. 493.8 × 176 × 468.8 mm (w/h/d) (19 1/2 × 7 × 18 1/2 inches)
Mass	Approx. 18 kg. (39 lb. 11 oz)
Printing system	Dye transfer sublimation thermal printing
Thermal head	2,560 elements, 11.8 dot/mm (300dpi)
Gradations	256 levels each for yellow, magenta and cyan
Picture size	Maximum 297 × 215.9 mm(w/h) (11 3/4 × 8 1/2 inches)
Picture elements	Maximum 3,508 × 2,550 dots (w/h)
Printing time	Approx. 80 seconds per page for color printing (300dpi) (UC) Approx. 85 seconds per page for color printing (300dpi) (EK) Approx. 125 seconds per page for OHP printing (300dpi) (UC) Approx. 130 seconds per page for OHP printing (300dpi) (EK)
Picture memory	10 Mbytes (4,096 × 2,560 × 8 bits) with the SCSI Interface Kit UPK-8800SC (not supplied) installed 30 Mbytes (4,096 × 2,560 × 3 × 8 bits) with the Add-on Memory Kit UPK-8801 (not supplied) installed to the SCSI Interface Kit UPK-8800SC
Interface	SCSI-1 channel (amphenol 50-pin connector × 2) with the SCSI Interface Kit UPK-8800SC (not supplied) installed
Ink ribbon/Print paper	Color Printing Pack UPC-8811 (UC) Color Printing Pack UPC-8810 (EK) OHP Printing Pack UPC-8831 (UC) OHP Printing Pack UPC-8830 (EK)
Accessories supplied	Ink ribbon holder (1) Paper tray (1) Paper cover(1) AC power cord (1) Instructions for use (1) Warranty card (1) (UC)

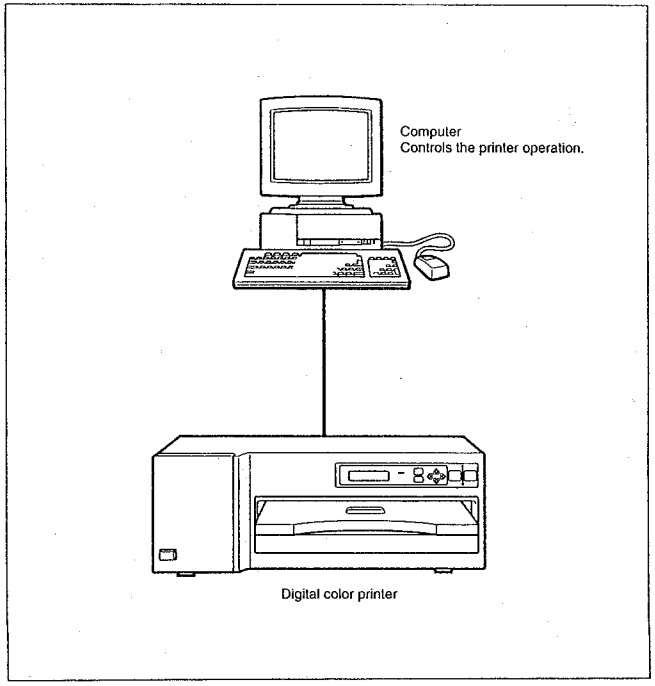
Design and specifications are subject to change without notice.

1-2. SYSTEM OVERVIEW

The Sony UP-D8800 digital color printer is designed to reproduce computer images on letter-size print paper or OHP films.
By installing the SCSI Interface Kit UPK-8800SC (not supplied) to the expansion slots of the printer, you can print out image data of MS-Windows or Macintosh graphics application software in high resolution (300dpi/150dpi) and 256 shades of gray or in full color (16,700,000 colors). With the Add-on Memory Kit UPK-8801 installed to the UPK-8800SC, you can expand the printer memory to store an image for printing at once.
The Color Connectivity Controller P881* (not supplied), when installed to the printer expansion slot, makes the printer to fully support the PostScript™, a page-description language widely used by computers, printers, and imagesetters.
* The Color Connectivity Controller P881 is available from TopMax Corporation.

System Configuration

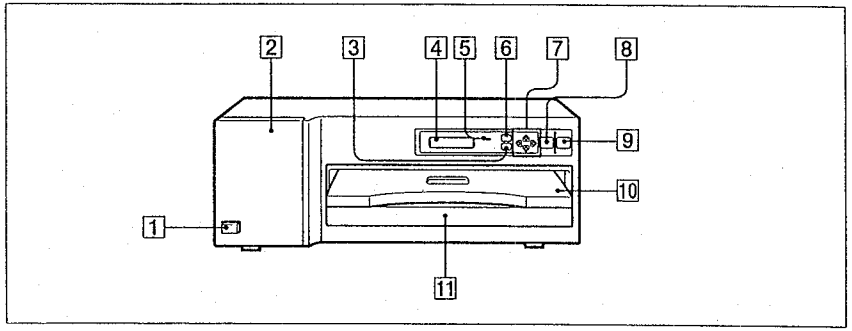
The following shows an example printer system configuration.



1-3. LOCATION AND FUNCTION OF PARTS AND CONTROLS

For details, refer to the pages indicated in parentheses.

Front



[1] **⏻ POWER switch**
Press to turn the printer on or off.

[2] **Ribbon door (13)**
Press the PUSH indicator to open the ribbon door to load an ink ribbon cassette.

[3] **PRINT QTY (quantity) button (19)**
Press this button to display or quit the print quantity setting menu in the printer window display.

[4] **Printer window display (17)**
Displays status messages, error messages, printout adjust and print quantity setting menus, and other printing indications.

[5] **ALARM indicator (24)**
Lights in orange when the ink ribbon or print paper is exhausted, the paper jams, or another problem occurs.

[6] **MENU button (20)**
Press this button to display or quit the printout adjust menu in the printer window display.

[7] **Cursor control buttons (19)**
Use these buttons to increase or decrease a value and level shown on the menu, or scroll up and down through a menu.

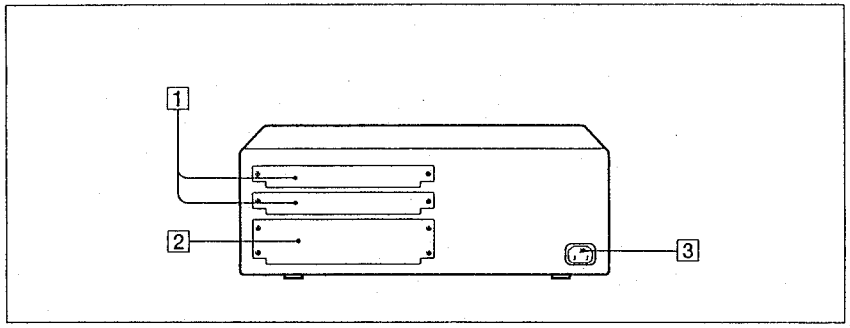
[8] **▽STOP button (18)**
Press this button to stop printing part-way.

[9] **PRINT button (17)**
Press this button to print the image data stored in the memory of the printer.

[10] **Paper cover (11)**
Printouts are ejected here.

[11] **Paper tray (15)**
Load print paper here.

Rear



1 **Expansion slots for SCSI Interface Kits (1 and 2) (11)**
Remove the cover and insert the SCSI Interface board (not supplied) and memory board (not supplied) here.

2 **Expansion slot for Color Connectivity Controller (11)**
Remove the cover and insert the Color Connectivity Controller P881 (not supplied) here.

3 **~AC IN connector (12)**
Used to connect to a wall outlet, using the AC power cord supplied.

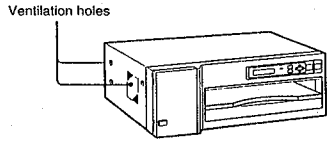
1-4. PRECAUTIONS

Safety

- Operate the printer on 120V AC, 50/60 Hz power supply only.
- Be careful not to damage the power cable by placing or dropping heavy objects on it; it is dangerous to use the unit with a damaged power cable.
- If you do not intend to use the unit for a long time, disconnect the power cable.
- Unplug the power cable by grasping the plug, not the cable itself.
- Do not disassemble the unit.
- Do not remove the cover. There is a danger of electric shock from the internal parts.
- Be careful not to spill water or other liquids on the unit, or to allow combustible or metallic material to enter the cabinet. If used with foreign matter in the cabinet, the unit is liable to fail, or present a risk of fire or electric shock.
- If the unit malfunctions or if a foreign body falls into the cabinet, disconnect the power immediately and consult your Sony service facility or your Sony dealer.
- When transporting the printer, turn on the power and press the STOP, < and > buttons together to lock the thermal head. Then turn off the power. Remove the ink ribbon cassette and paper tray from the printer.

Installation

- Avoid placing the unit in a location subject to:
  - mechanical vibration
  - high humidity
  - excessive dust
  - direct or excessive sunlight
  - extremely high or low temperatures
- Ventilation holes are provided to prevent the unit from overheating. Be careful not to obstruct them with other units or by covering the unit with a cloth etc.



On condensation

- If the printer is subjected to wide and sudden changes in temperature, such as when it is moved from a cold room to a warm room or when it is left in a room with a heater that tends to produce large amounts of moisture, condensation may form inside the printer. In such cases the printer will probably not work properly, and may even develop a fault if you persist in using it. If moisture condensation forms, turn off the power and leave the printer to stand for at least one hour.

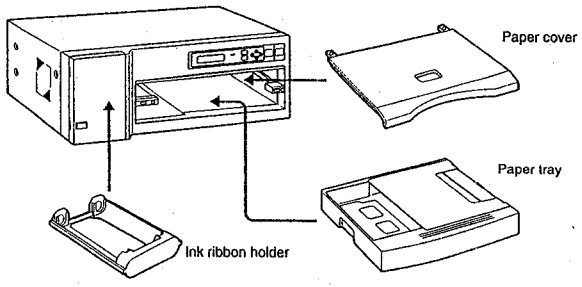
- If the printing pack is subjected to wide and sudden changes in temperature, condensation may form on the ink ribbon or paper inside. This will cause the printer to malfunction. Also if the printing pack is used in this state, spots are likely to appear on the printout.
- To store a half-used printing pack, replace it in its original packing and reseal the package. If possible, keep the sealed printing pack in a cool, dark location. To subsequently use the printing pack, place it, in its sealed package, in a warm room for several hours. Doing so prevents condensation from forming when the printing pack is removed from its package.

Cleaning

Clean the cabinet, panel and controls with a soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which may damage the finish.

Assembly

Mount the supplied ink ribbon holder, paper tray and paper cover.



Installing the Expansion Boards

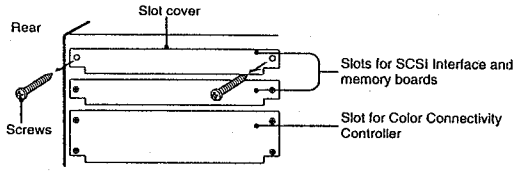
Connect the SCSI Interface Kit or/and Color Connectivity Controller to the expansion slots of the printer. Through the expansion boards, you can connect the computer to control the printer and supply image data for printing. For details, refer to the operating instructions of the expansion boards you are using.

Notes

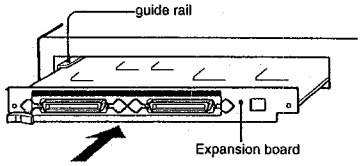
When connecting
- Turn off the power of the printer and the computer before attempting to make any connections.
- Connect the AC power cord last.

1 Remove the screws at both sides of the cover of the expansion slot to which you are installing the expansion board.

When installing the SCSI Interface Kit



2 Insert the expansion board along the guide rail of the expansion slot until it stops.



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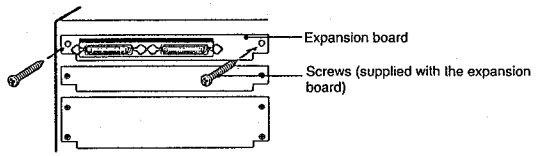
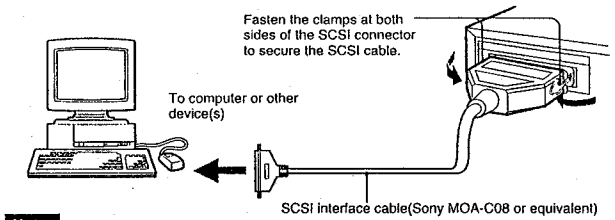
3 Fix the expansion board with the screws supplied with the board.



4 Make necessary settings (for example the setting of the SCSI ID DIP switch), and connect the computer or other peripherals to the printer. For necessary setting, refer to the operating instructions of the expansion kit.

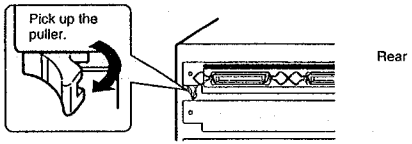


Note

The type of the connecting cable differs with the computer or the device. For the details, refer to the operating instructions of the device you are using.

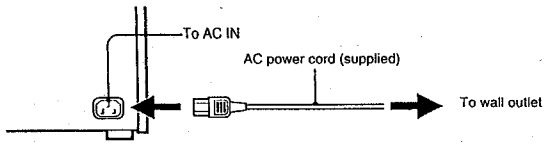
Removing the Expansion Board

To remove the expansion board, follow the reversed steps for attaching the board. When you pull out the board, pick up the puller of the board.



Connecting the AC Power Cord

Connect the supplied AC power cord to the AC IN connector on the rear of the printer and then connect the cord to the wall outlet.



Note

Operate the printer only on 120 V AC 50/60 Hz.

This section describes the operations that must be performed prior to starting printing. This explanation assumes that the printer has already been installed and that all connections have been made.

- Loading an ink ribbon cassette (page 13)
- Loading the print paper (page 15)

Once these operations have been completed, there should be no need to perform them again during routine printing.

Notes

- Use the ink ribbon suitable for the type of print material. Before attempting to load an ink ribbon, make sure that the combination of the ribbon and paper is compatible. ("Ink Ribbon and Print Paper" on page 23) If the printer detects an incompatible combination, an error message appears in the printer window display and you cannot make printouts.
- Use only ink ribbon and print paper for this printer. If you use a different type, the printer may not print properly or malfunction.

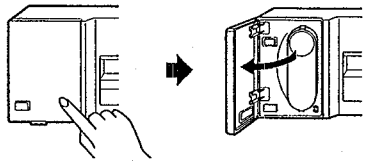
Loading an Ink Ribbon Cassette

Load the ink ribbon to the supplied ink ribbon holder, and load the ink ribbon cassette (referring to the ink ribbon holder loaded with the ink ribbon) to the printer's ribbon compartment.

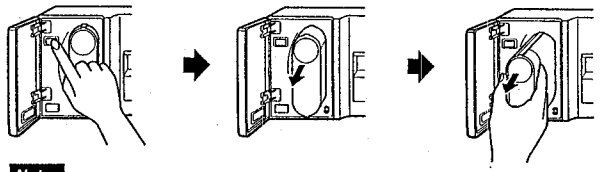
Note

When replacing ink ribbon, do not turn off the power. If you turn off the power, the image data stored in the memory will be lost.

1 Push PUSH on the ribbon door.
The ribbon door opens.



2 Remove the ink ribbon cassette by pulling down the EJECT lever.
The ink ribbon cassette pops out.



Note

Never put your hand into the ink ribbon compartment. The thermal head becomes very hot. You may burn yourself if you touch it.

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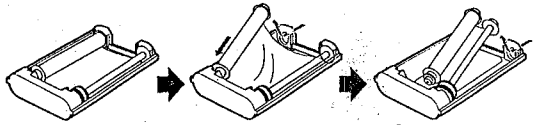
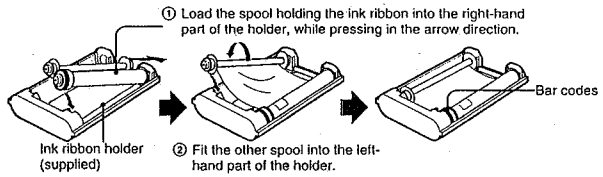
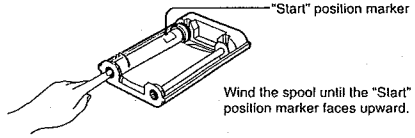
3 Detach the used ink ribbon from the ink ribbon holder.



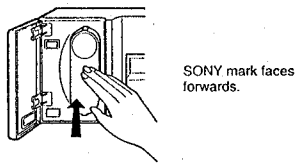
4 Take off the seal of the ink ribbon and load the ink ribbon to the ink ribbon holder.
The printer can detect the type of ink ribbon with the bar codes on the spool.



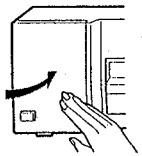
5 Remove any slack from the ink ribbon.
If the ribbon is left slack, it may be crumpled and damaged when inserted.



6 Insert the ink ribbon cassette firmly until it stops.

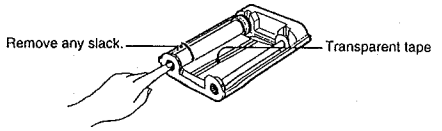


7 Close the ribbon door.



If your ink ribbon should tear

Repair the tear with transparent tape. There should be no problem with using the remaining portion of the ribbon.



Notes

When using ink ribbons
- Once an ink ribbon has been completely used, replace it. Ink ribbons are not re-usable.
- Do not touch the ink ribbon or place it in a dusty location. Finger prints or dust on ink ribbon will result in imperfect printing.

When storing ink ribbons
- Avoid placing the ink ribbon in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Store partially used ink ribbon in its original package.

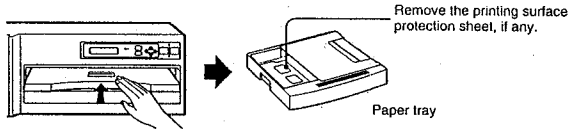
Loading the Print Paper

Load the print paper by the following procedure. Be careful not to touch the printing surface of the paper.

Note

When loading the print paper, do not turn off the power. If you turn off the power, the image data stored in the memory will be lost.

1 Push PUSH on the paper tray.
The paper tray is ejected.



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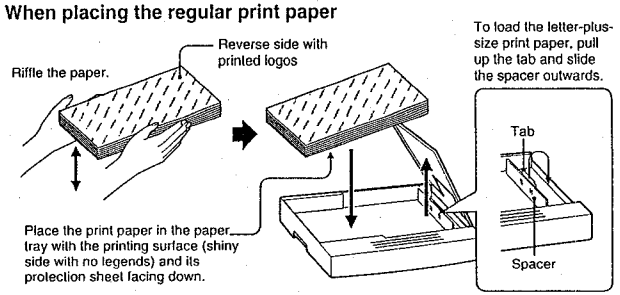
2 Open the tray cover and place the print paper in the paper tray.

When placing the regular print paper



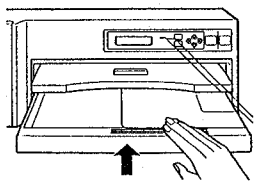
When placing the OHP transparencies

Place the transparencies with their M-shaped notch fitting to the mark M on the bottom of the paper tray.

Notes

- The paper tray holds up to 100 sheets of paper and transparencies. When you add paper to a partly-full tray, be careful that the total number of sheets does not exceed 100. If you exceed this limit, paper jams may occur.
- When you add paper to a partly-full tray, remove the printing surface protection sheet. Do not place different types of paper in the tray. If you do, paper jams may occur.
- Load the paper so that it lays flat in the paper tray. If the paper is curled, it will overflow the paper tray and the printing position may shift. If this happens, load fewer sheets in the paper tray.

3 Close the tray cover and slide the paper tray into the printer until it clicks into place.



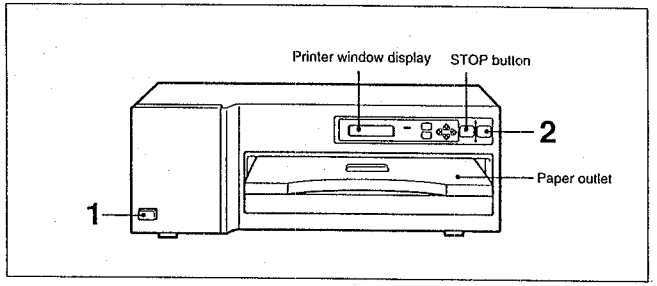
Notes

When storing print paper

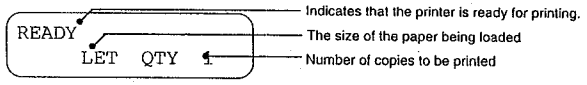
- Avoid storing the print paper in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Use the original package for storing unused paper.

Before printing

- Ensure that the printer is properly connected to the computer.
- Ensure that the ink ribbon cassette and print paper are properly loaded.



1 Turn on the power of the printer and computer.
When the printer is in standby status, the following message appears in the printer window display.

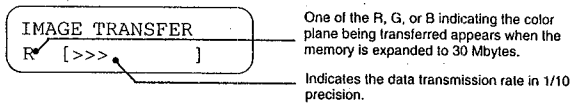


Notes

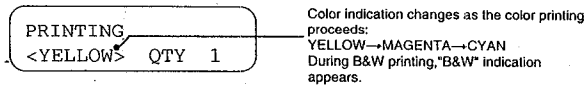
- When the printer is connected to the computer through the SCSI bus, turn on the power of the printer before turning on the computer.
- Never turn the printer on or off while the computer is accessing its hard disk, floppy disk or another SCSI device.

2 Send the image data from the computer to the printer, then enter the print command or press the PRINT button of the printer.
You can print an image either in 300dpi or 150dpi. For the details, refer to the instruction manual of the printer driver software you are using.

① While the printer is receiving the image data from the computer, the following message appears:
The data is written in the memory of the printer.



② The stored image data is printed as soon as the print command is entered from the computer or the PRINT button of the printer is pressed.



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③ It takes about 80 (UC), 85 (EK) seconds for a 300dpi color printout (60 seconds for 150dpi) and 60 seconds for a 300dpi black and white printout (40 seconds for 150dpi) to emerge from the paper outlet.
Once printing has been completed, the printer returns to standby status.

```
READY
    LET  QTY  1
```

Notes

- Do not pull the paper out till the printer finishes printing.
- To prevent paper jamming, do not allow more than 20 printouts on the paper cover.

To stop receiving the data or to stop printing midway

Press the STOP button. Data reception is abandoned midway and the printer is reset to standby status. When the printing is abandoned midway, the following message appears. After the print paper remained in the printer is ejected, the printer is reset to standby status.

```
PLEASE WAIT
```

To make a second copy of a printout

Execute the print menu of the computer again or press the PRINT button of the printer. The image data stored in the memory is printed again.

Note

When the memory is 10 Mbytes, you cannot make a second copy of a color image.

About memory

The image data sent from the computer is stored in the memory of the printer. When the SCSI Interface Kit (not supplied) is installed, the capacity of the memory is 10 Mbytes to store one color plane of a printout (3,508 × 2,550). When the add-on memory board (not supplied) is installed, you can expand the memory to 30 Mbytes to store the whole image (three color planes) of a printout.

If the printer does not print

The printer will fail to print in the following cases:

- An error message is displayed in the printer window display. Take remedies according to "Error Messages" on page 24.
- The image data stored in the memory is lost when you turn off the power. Execute the print menu again to send the data for printing.

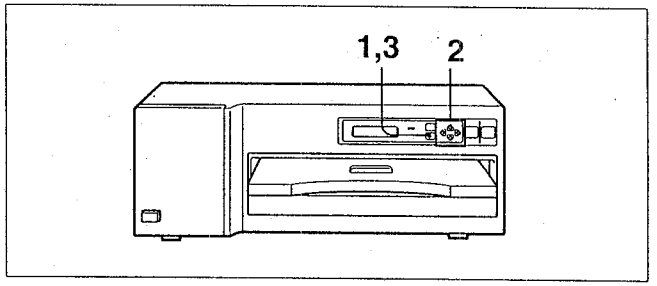
Notes

When storing your printouts

- Avoid storing the printout in a location subject to high temperatures, high humidity, excessive dust and direct sunlight.
- Do not stick tape on a printout. Also avoid leaving a plastic eraser on a printout or placing a printout in contact with materials which contain plasticizer (under a desk mat, for example).
- Be sure not to leave the printed surface of an OHP transparency pressed against anything. The ink may come off onto the other surface.
- Do not allow alcohol or other volatile organic solvents to come into contact with the printouts.

1-8. SETTING THE PRINT QUANTITY

You can set a print quantity value up to 20 before or during printing when the memory is expanded to 30 Mbytes.



1 Press the PRINT QTY button.
The print quantity setting menu is displayed in the printer window display.

```
PRINT QTY:   1
    (COLOR 100)
```

Current setting
Number of printouts the remaining ribbon can afford.
Type of ink ribbon being loaded (COLOR, B&W, OHP)

2 Set the quantity with the < or > button.
>: The number increases.
<: The number decreases.
When you keep the button pressed, the number changes quickly.

```
PRINT QTY:   12
 (COLOR 100)
```

Printing quantity changes.

3 To exit from the print quantity setting menu, press the PRINT QTY button again.
The printer window display returns to standby status and you can print the number of copies of the renewed setting.

```
READY
    LET  QTY  12
```

Renewed setting

When the print paper runs out during printing

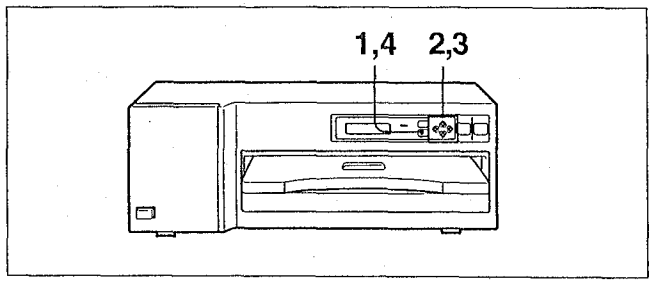
Load the print paper in the paper tray and press the PRINT button. The printer prints the remaining copies.

Notes

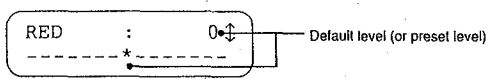
- When you turn off the power, the print quantity setting is reset to 1.
- You can also set the print quantity from the application software. The most recently set quantity remains effective until changed.
- The "QTY" value in the plinter window display decreases each time one printout comes out to indicate the remaining copies to be printed.
- With the memory of 10 Mbytes, you can set the print quantity when printing black and white images.

1-9. AJUSTING THE PRINTOUTS

You can adjust the picture quality of a printout with the MENU button before printing when the memory is expanded to 30 Mbytes. The most recent setting remains effective until changed.

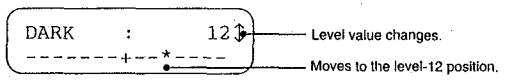


1 Press the MENU button.
The first item of the printout adjust menu (for RED) appears in the printer window display. The default or preset level is shown both as a value and graphically.



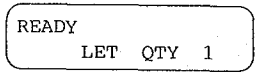
2 Select the item for adjustment with the ∧ or ∨ button.
∧ : Scrolls up to the previous item.
∨ : Scrolls down to the next item.

3 Adjust the level with the < or > button.
You can adjust the level between -32 to +32. The center of the graph and the value 0 is the standard level. The sharpness can be adjusted among 4 levels: NONE (standard level)/LOW/MIDDLE/HIGH.
> : Increases the level.
< : Decreases the level.



Adjustment Items		When you press >:
Color	RED	Red becomes stronger.
	GREEN	Green becomes stronger.
	BLUE	Blue becomes stronger.
Tone	DARK	Dark tone becomes stronger.
	LIGHT	Light tone becomes stronger.
Sharpness	SHARPNESS	The outlines become sharper.
Half tone	GAMMA	Half tone colors become stronger.

4 To exit from the printout adjust menu, press the MENU button again.
The printer returns to standby status.



Notes

- You can also adjust the printout picture quality from the application software. The most recently set values are effective until changed.
- The next printout is printed with the newly set values. You cannot adjust the color during printing.
- If you do not press any button for approximately 15 seconds after pressing the MENU button , the printer is automatically reset to standby status.

1-10. INK RIBBON AND PRINT PAPER

You need print paper and ink ribbon cassette for printing. ("Ink ribbon cassette" stands for the supplied ink ribbon holder loaded with ink ribbon.) Use the ink ribbon and print paper contained in the same package. If the printer detects an incompatible combination, an error message appears in the printer window display and you cannot make printouts.

UPC-8811 Color Printing Pack (UC)
UPC-8810 Color Printing Pack (EK)
Contains 100 sheets of print paper and 1 roll of color ink ribbon
UPC-8831 OHP Printing Pack (UC)
UPC-8830 OHP Printing Pack (EK)
Contains100 OHP (overhead projector) transparencies and 1 roll of color ink ribbon

Notes

- Use only ink ribbon and print paper for this printer. If you use a different type, the printer may not print properly or malfunction.
- Ink ribbon and print paper are not re-usable. After you finish with them, replace them with new ones.

1-11. TROUBLESHOOTING

If a problem appears, check the following trouble shooting guide first and perform whatever action is necessary to solve the problem. If the problem persists, turn off the printer and consult with your nearest Sony service facility or your Sony dealer.

Symptom	Possible causes and remedies
Nothing appears in the printer window display.	The POWER switch of the printer is not set to ON. → Set the POWER switch of the printer to ON. If the power switch is set to ON, once set it to OFF, then to ON again.
	Connections may not be correct. → Make connections correctly. (page 11)
The printer does not print.	An error message appears on the printer window display. → Take remedies according to "Error Messages". (page 24)
	An ink ribbon cassette and print paper are not loaded. → Load an ink ribbon cassette and print paper. (pages 13 and15)

Error Messages

If a problem occurs, the ALARM indicator lights and an error message stating the problem appears in the printer window display. Note the message and perform whatever action is necessary to solve the problem.

Error messages	Possible causes and remedies
IMAGE TOO LARGE	The size of the printout is set beyond the printing limits. → Adjust the printing size from the computer.
END OF RIBBON	The ink ribbon has been completely used. → Replace with the new ink ribbon. (Ink ribbons cannot be reused.)
HEAD IN COOLING	The thermal head has overheated. → Leave the printer until the head cools down and this message disappears.
HEAD IN HEATING	The thermal head is warming up. → Leave the printer until the head has warmed up and this message disappears.
NO RIBBON	Ink ribbon cassette is not fitted properly. → Ensure that the ink ribbon is loaded properly in the ink ribbon holder, and the ink ribbon cassette in the printer. (page 13)
NO IMAGE DATA	No image data is stored in the printer memory. → Transfer the image data from your computer. (page 17)
NO PAPER	The print paper has run out. → Load the print paper into the paper tray. (page 15)
PLEASE WAIT	When you press the STOP button or turn off the power while printing, or the printer detects an invalid combination of the print paper and ink ribbon and automatically stops printing, this message appears. → Wait for the printer to eject the paper.
REMOVE PAPER AND PRESS [→]	The print paper has jammed. → Remove jammed paper from the printer and press > button. (page 25)
RESERVED	The printer is reserved. All the buttons other than the STOP button are deactivated. → To activate the buttons, release the reservation of the printer from your computer.
RIBBON ERROR	The ink ribbon develops some trouble. → Ensure that the ink ribbon does not tear and is loaded properly. (page 13)
RIBBON & PAPER MISMATCH	The ink ribbon and print paper are not compatible. → Use a valid combination of print paper and ink ribbon. (page 23)

If the message remains displayed after you perform the remedies
Turn off the power once and then turn it on. The message will disappear and you can operate the printer.

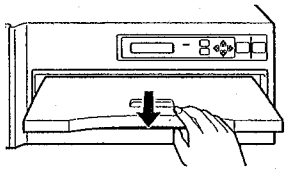
Serviceman Call Message

Error message	Meaning and remedies
MECHA TROUBLE	The printer cannot be operated any further. Turn off the power immediately and contact your Sony service facility or your Sony dealer.

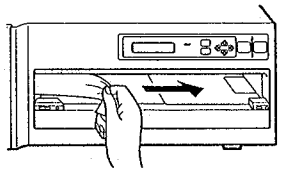
If the Paper Jams

If the paper jams, printing stops and the error message stating "REMOVE PAPER AND PRESS [→]" appears on the printer window display. Follow the steps below to remove the jammed paper.

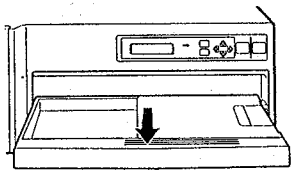
1 Remove the paper cover. If any printouts have been ejected on the paper cover, remove them first before removing the paper cover.



2 Check whether any paper is jammed inside the printer. If you find a jammed sheet, slowly pull it out straightly to the right.

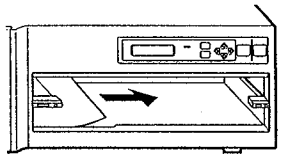


3 Push PUSH on the paper tray.
The paper tray pops out.



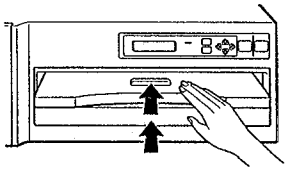
Continued to next page→

4 Check whether any paper is found on the bottom of the printer. If you find one, remove it.



5 Ensure that the print paper is properly loaded.
Discard the sheets removed in steps 2 and 4.

6 Reinsert the paper cover and paper tray into the printer.



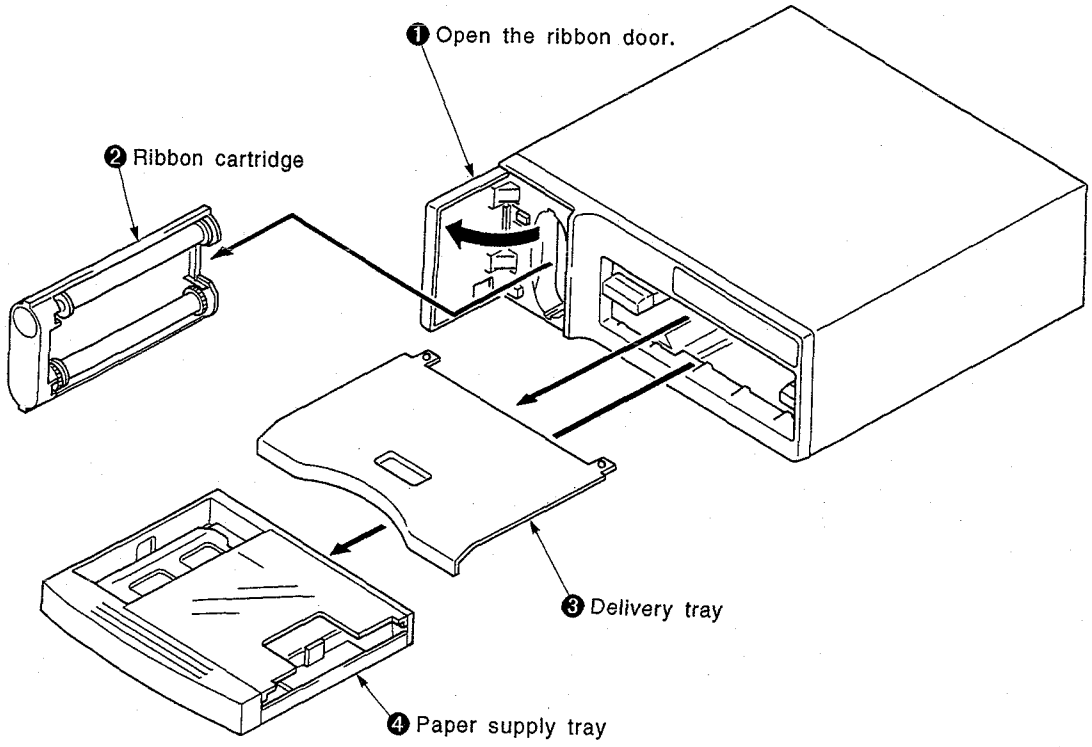
7 Press the > button.
The error message disappears and the printer returns to the standby status.

The printer window display

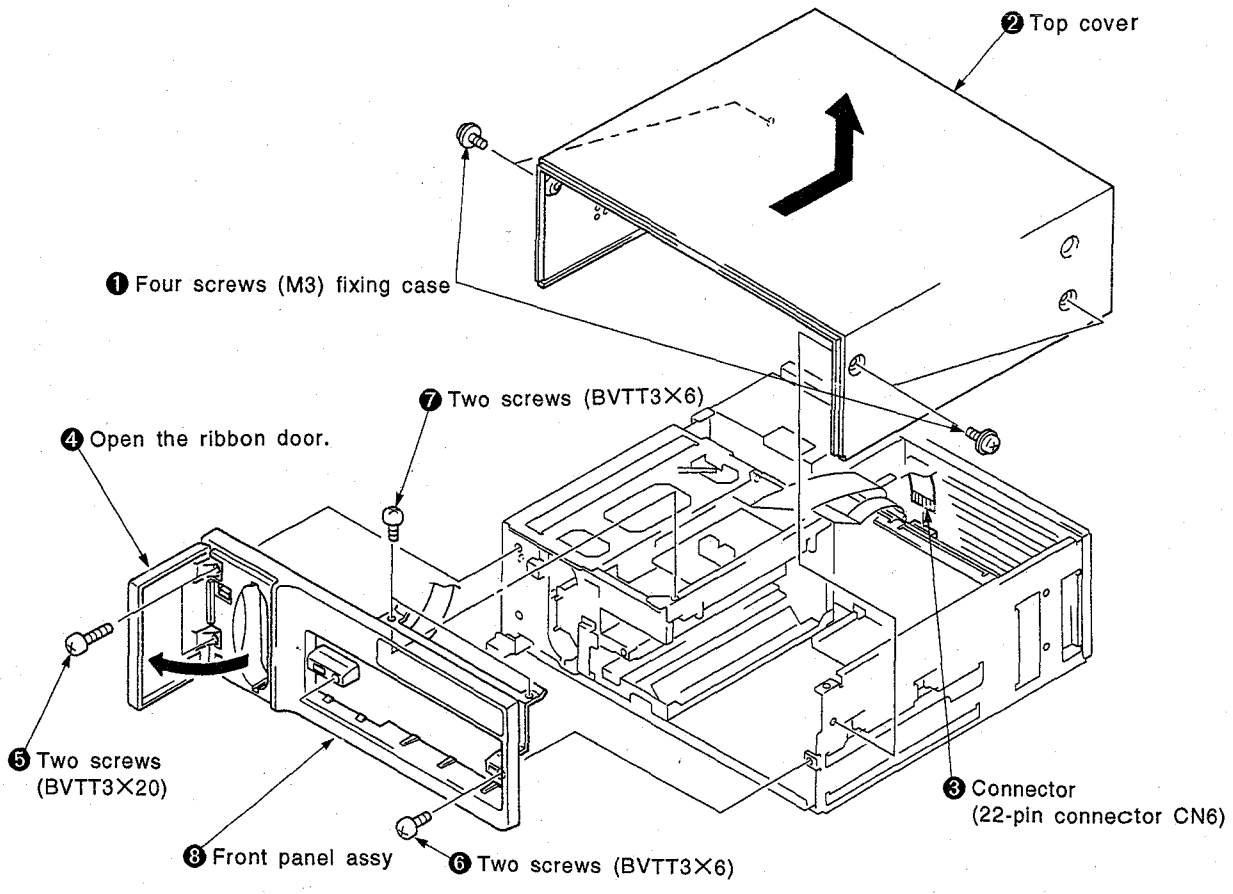
```
READY
      LET  QTY  1
```

SECTION 2
DISASSEMBLY

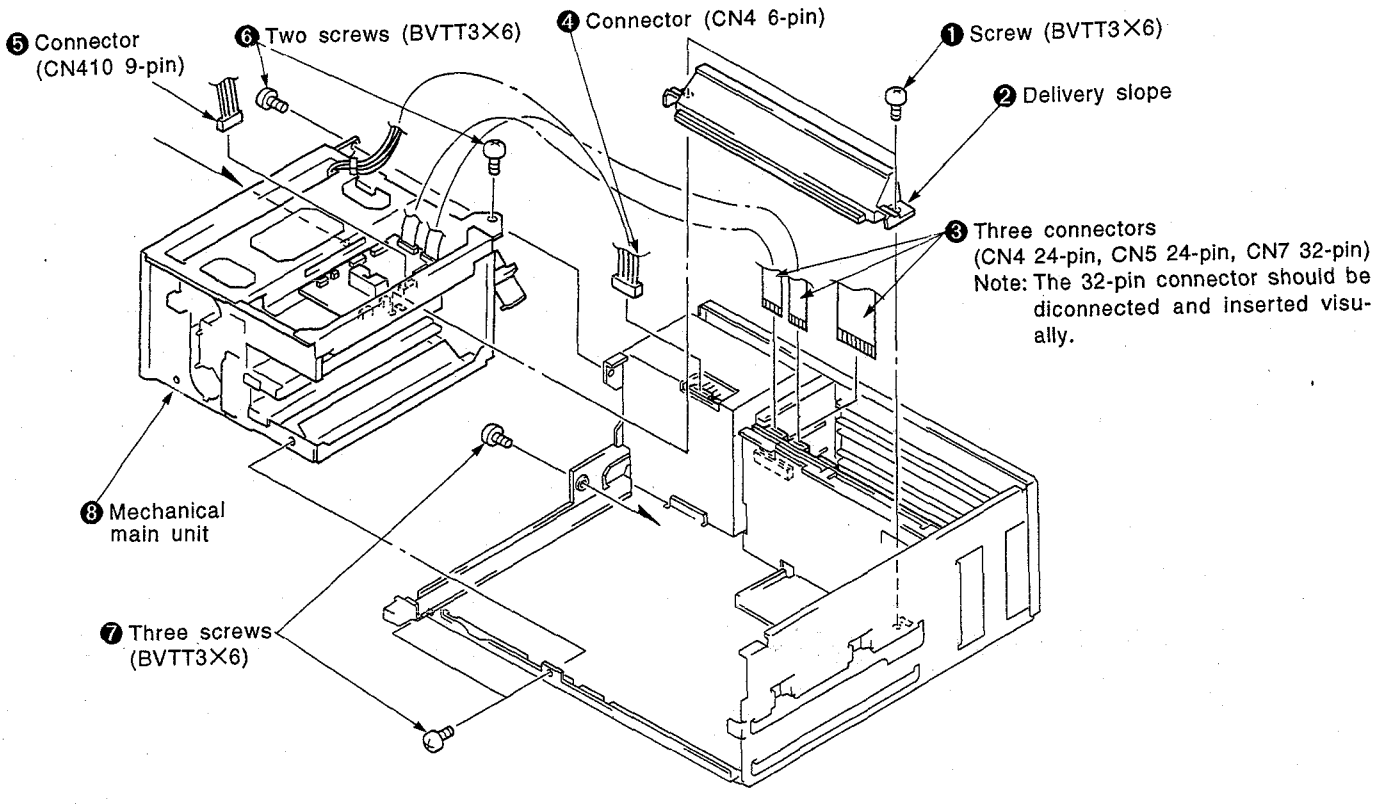
2-1. REMOVING THE ACCESSORIES



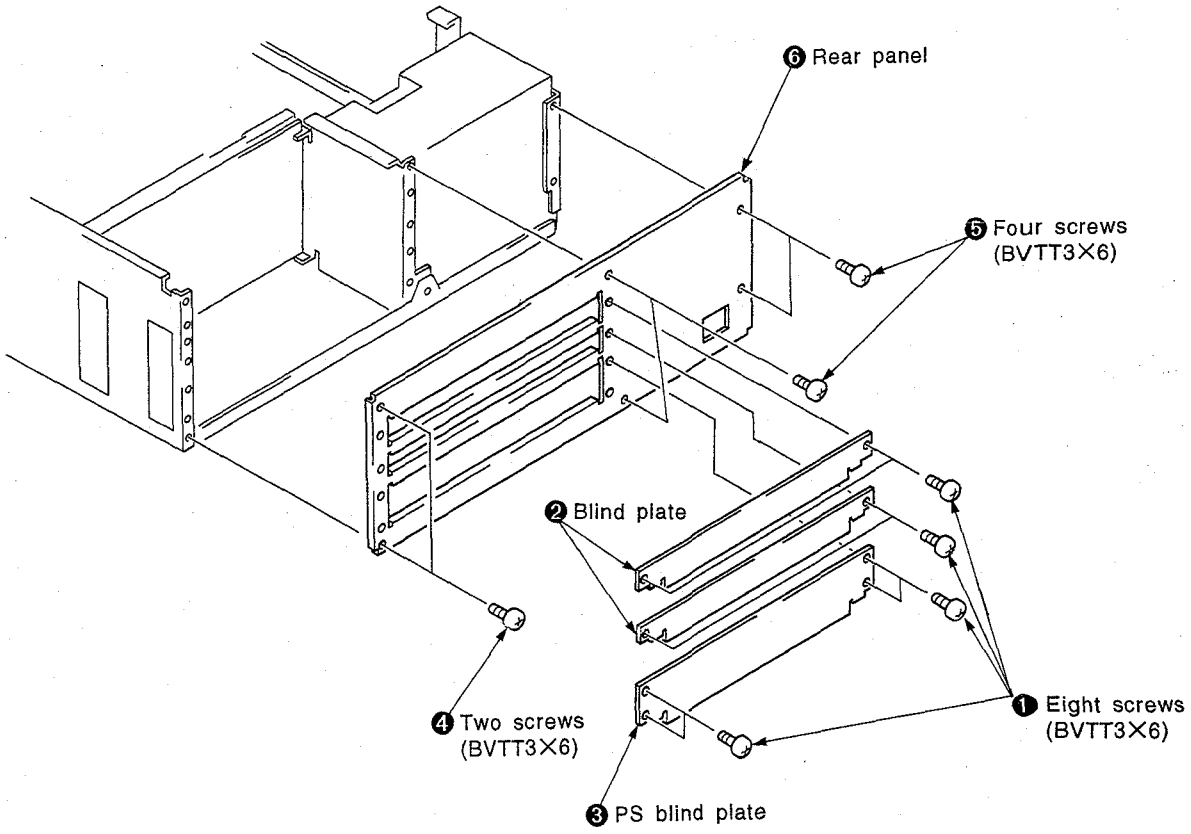
2-2. REMOVING THE FRONT PANEL ASSY



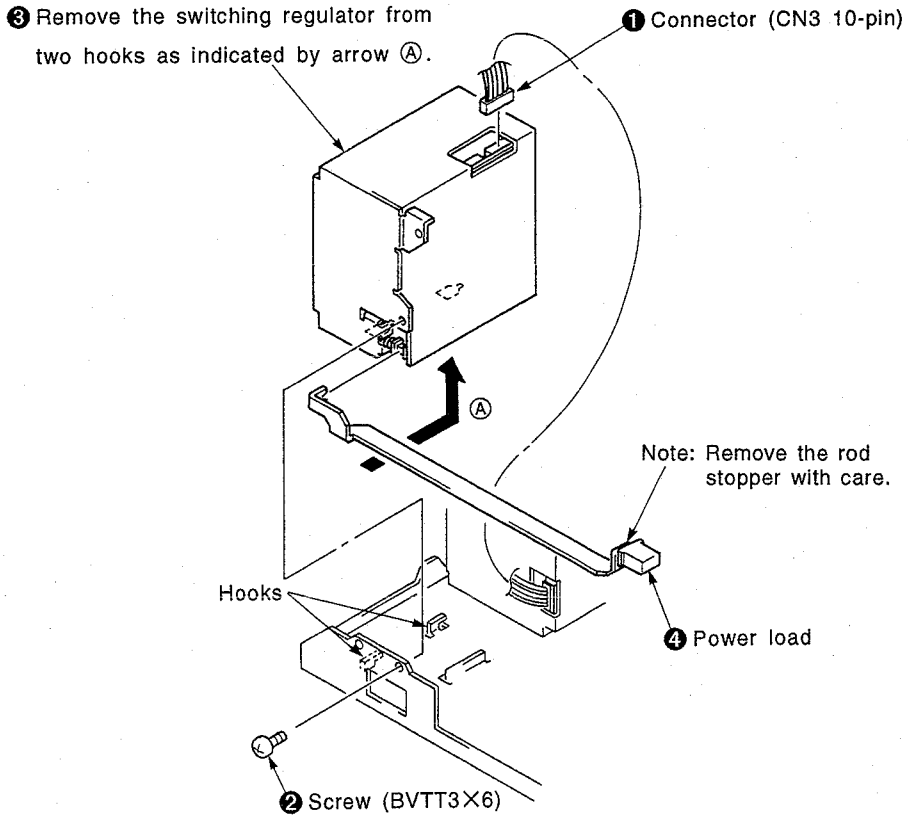
2-3. REMOVING THE MECHANICAL MAIN UNIT



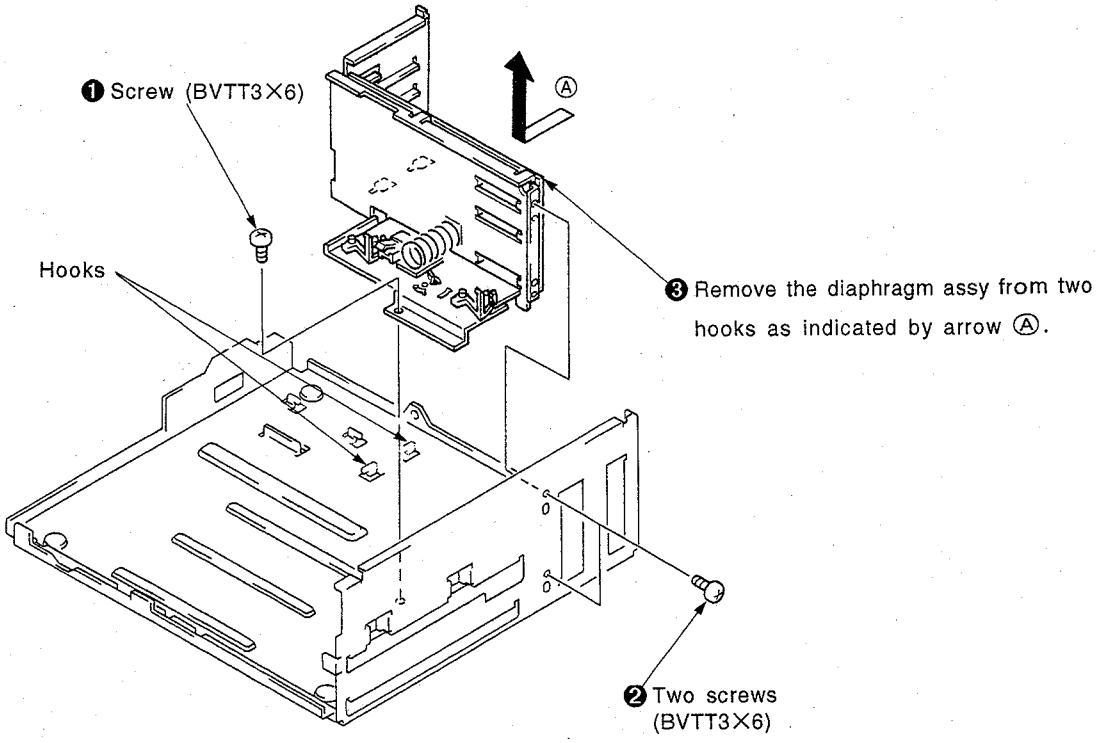
2-4. REMOVING THE REAR PANEL



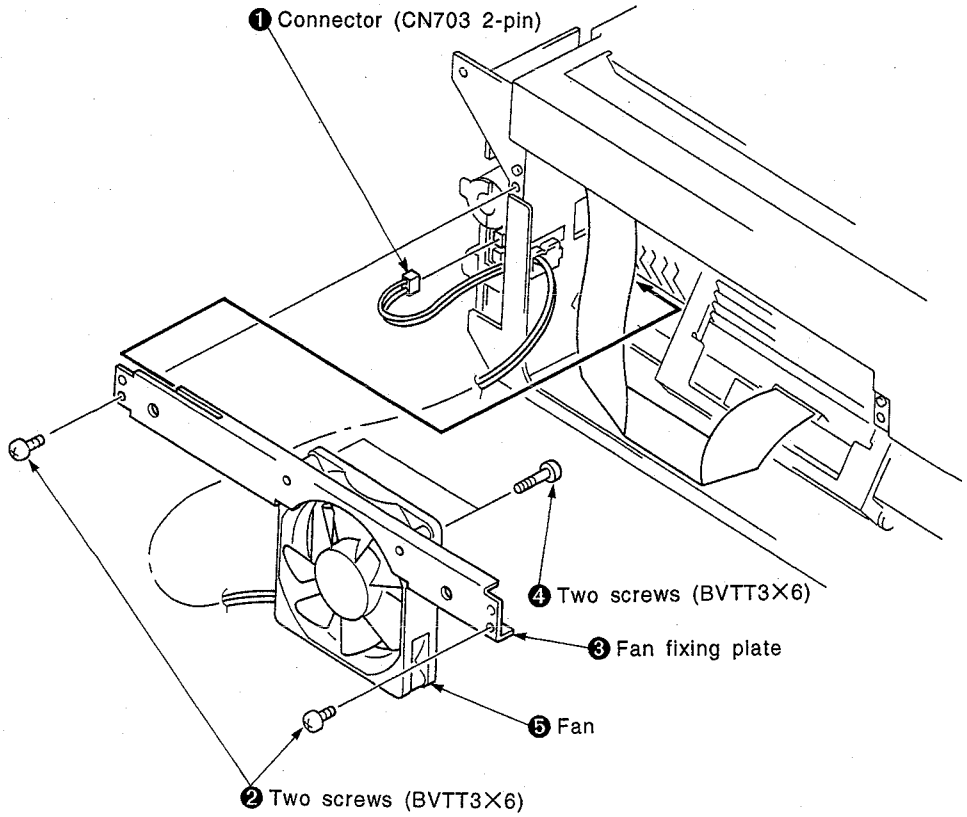
2-5. REMOVING THE SWITCHING REGULATOR



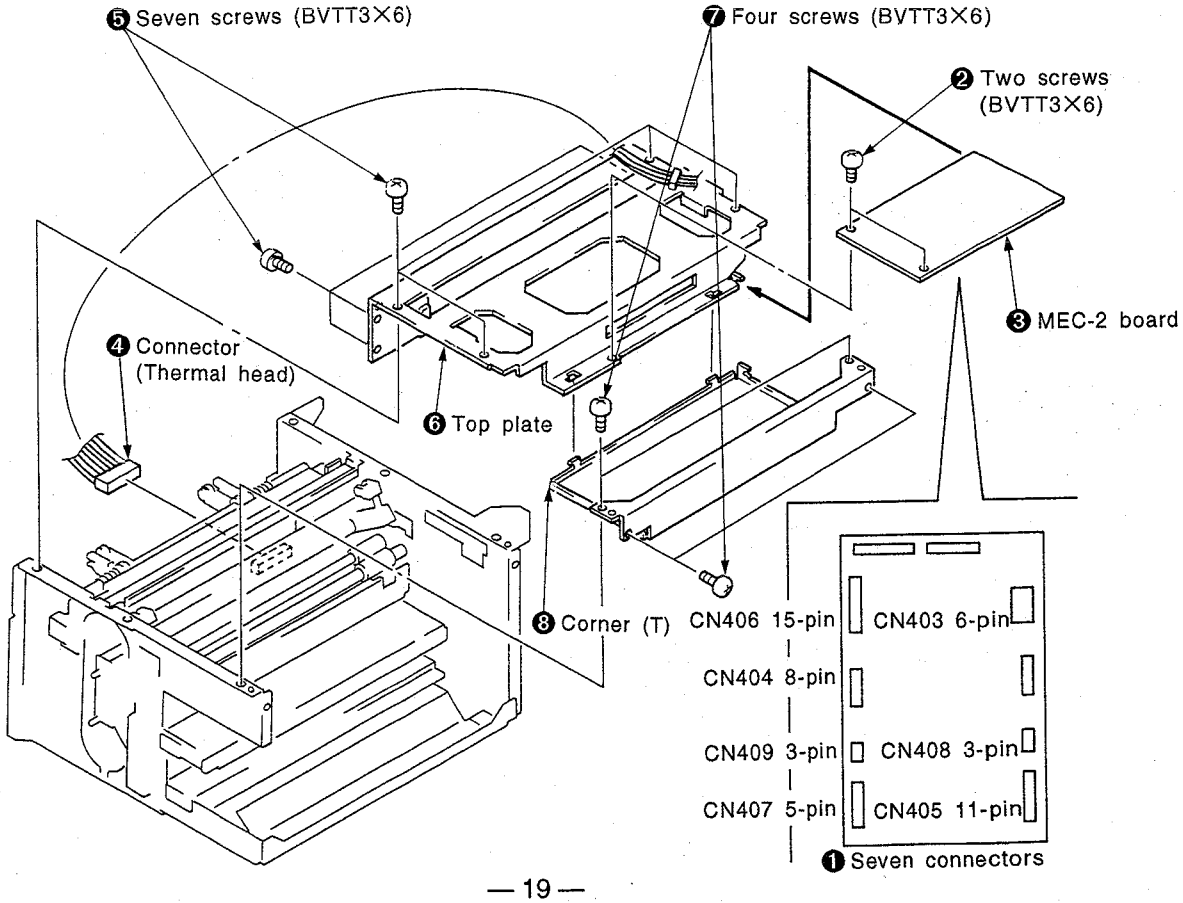
2-6. REMOVING THE DIAPHRAGM ASSY



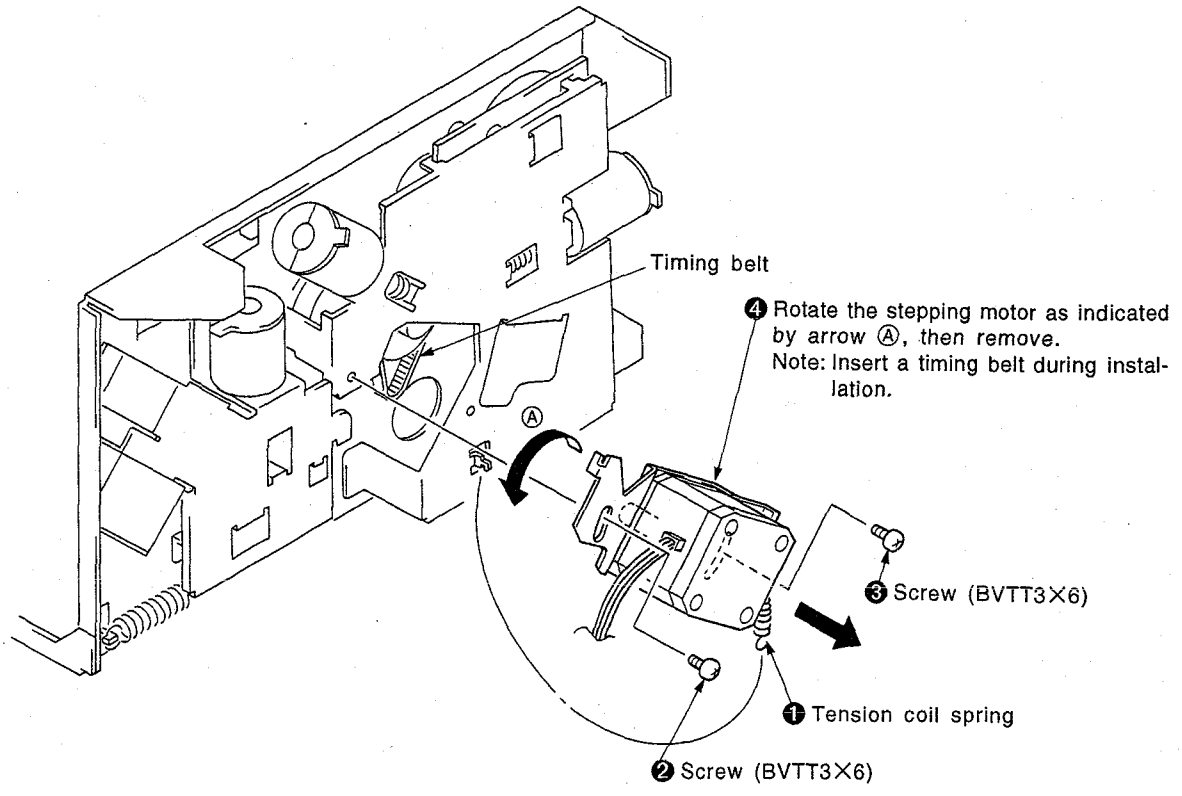
2-7. REMOVING THE FAN



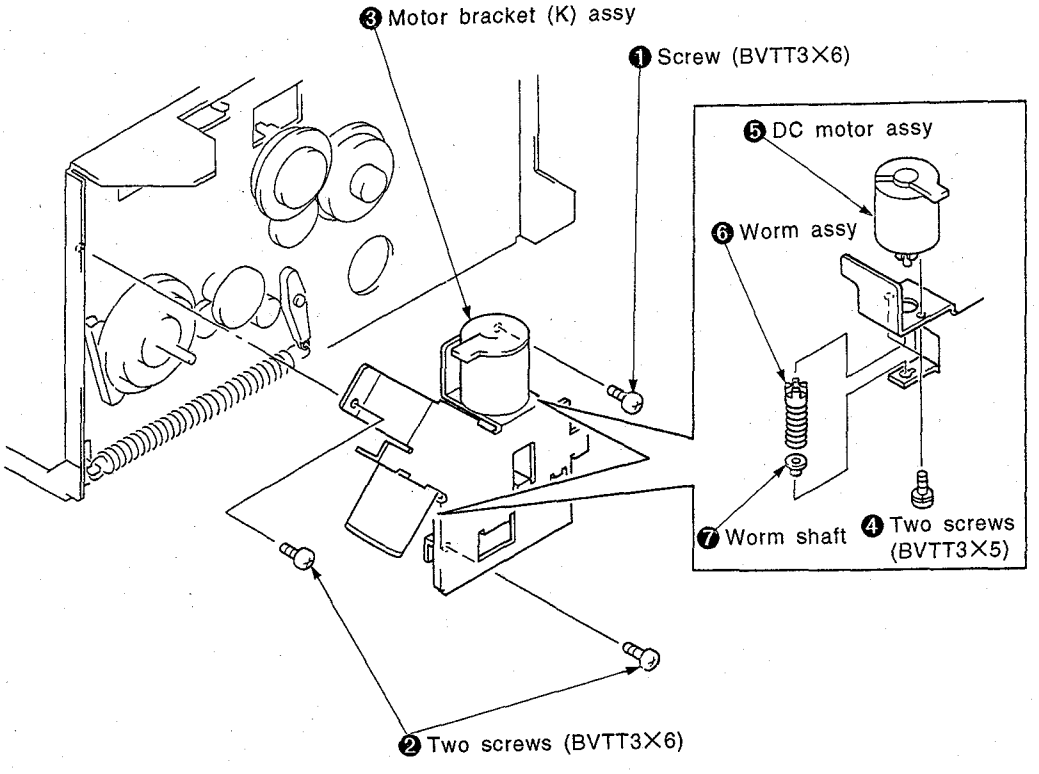
2-8. REMOVING THE MEC-2 BOARD, TOP PLATE, AND CORNER (T)



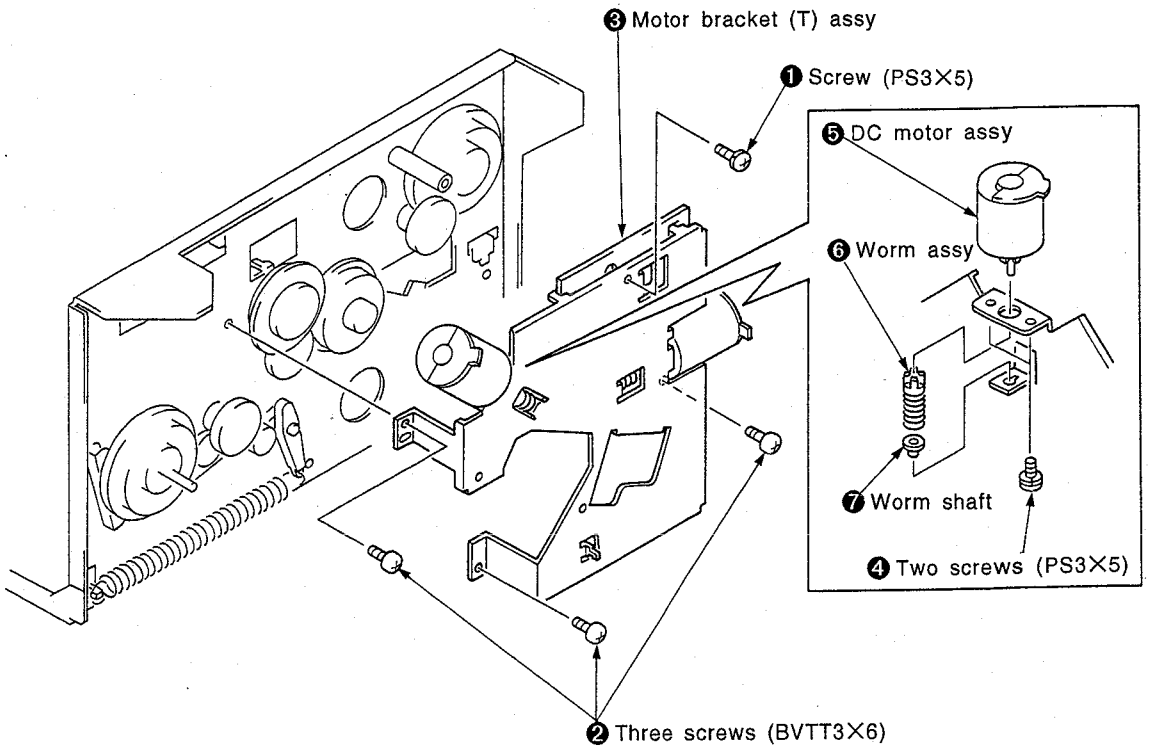
2-9. REMOVING THE STEPPING MOTOR



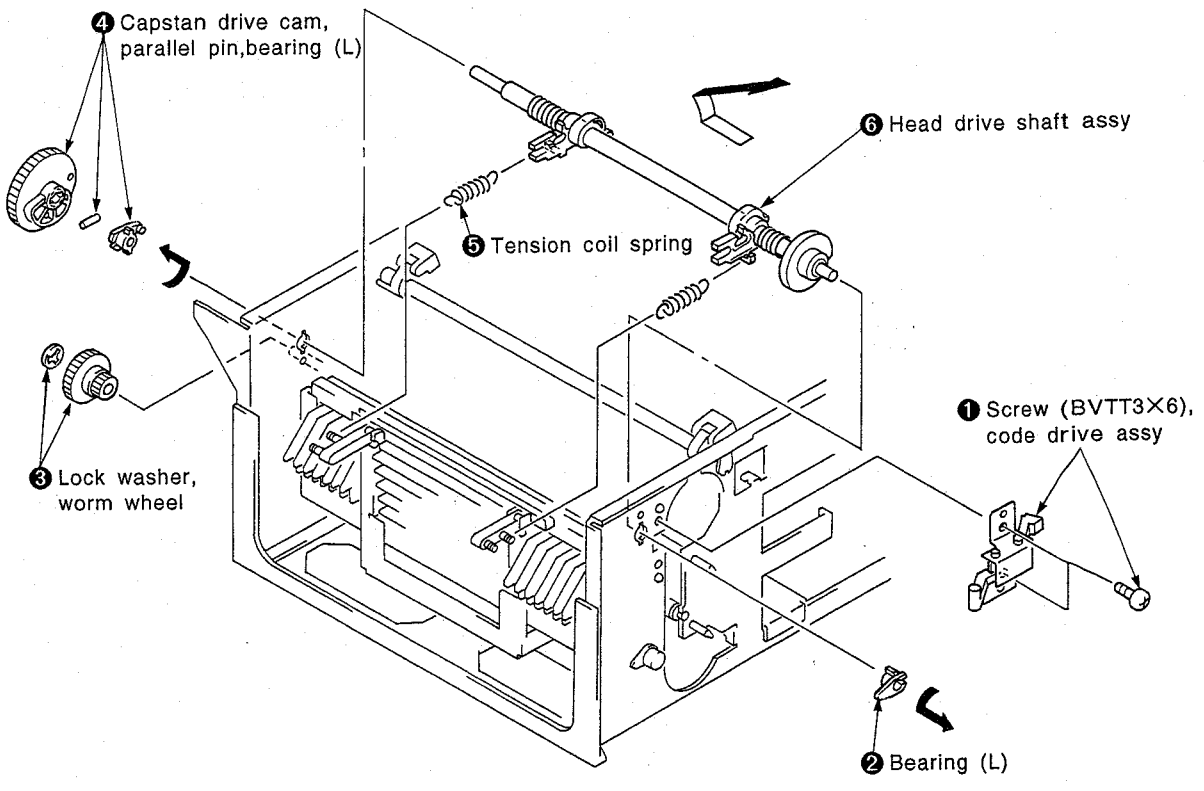
2-10. REMOVING THE DC MOTOR ASSY (MOTOR BRACKET (K) ASSY)



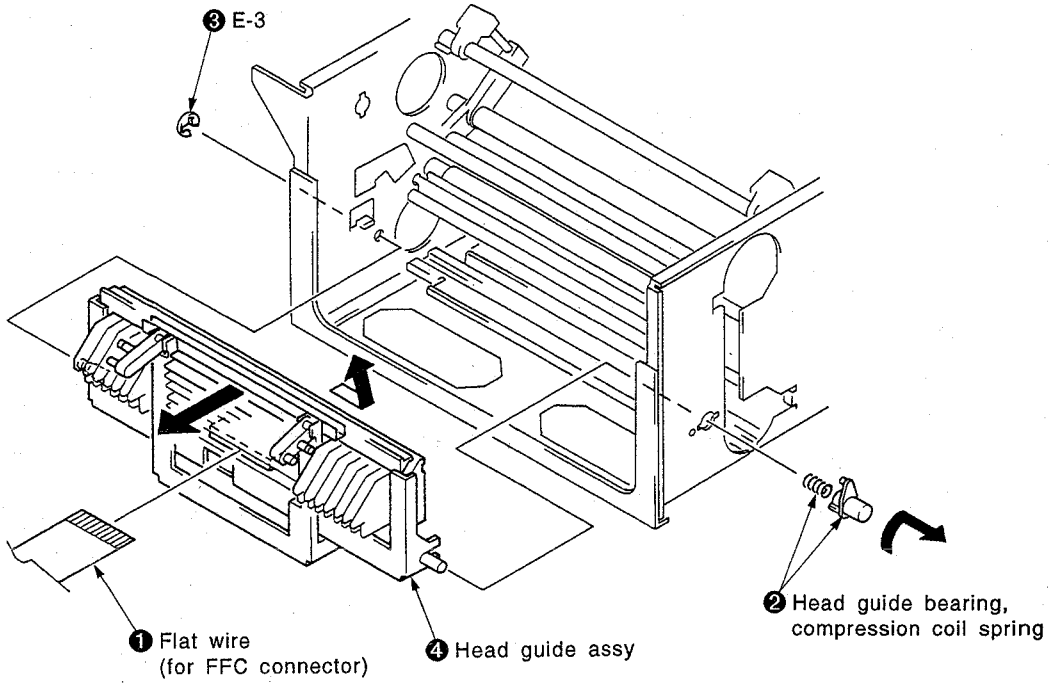
2-11. REMOVING THE DC MOTOR ASSY (MOTOR BRACKET (T) ASSY)



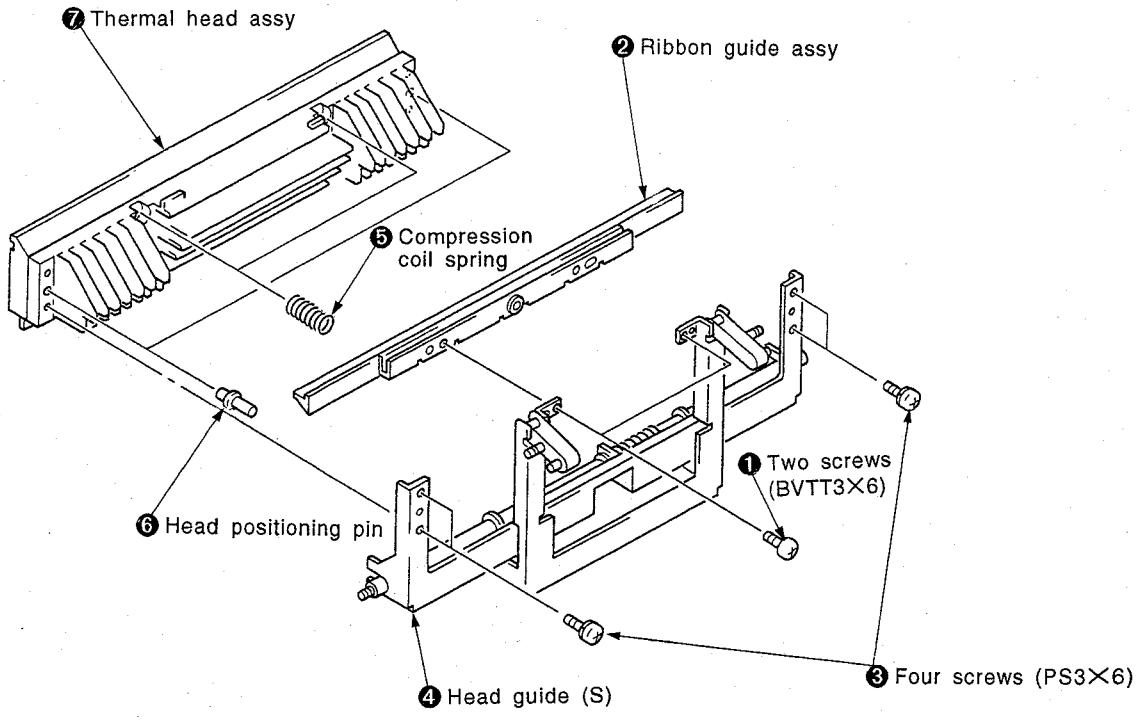
2-12. REMOVING THE HEAD DRIVE SHAFT ASSY



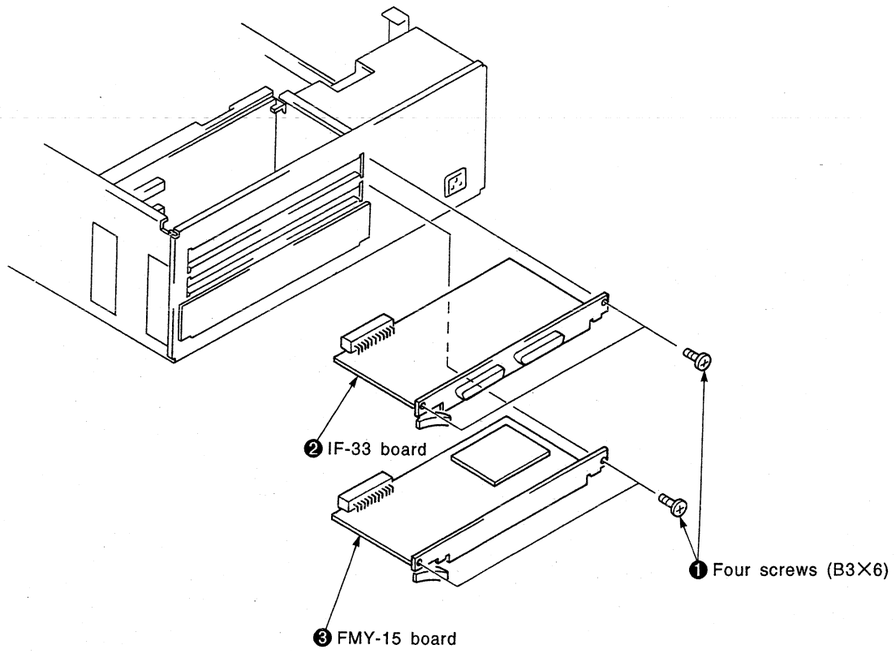
2-13. REMOVING THE HEAD GUIDE ASSY



2-14. REMOVING THE RIBBON GUIDE ASSY AND THERMAL HEAD ASSY

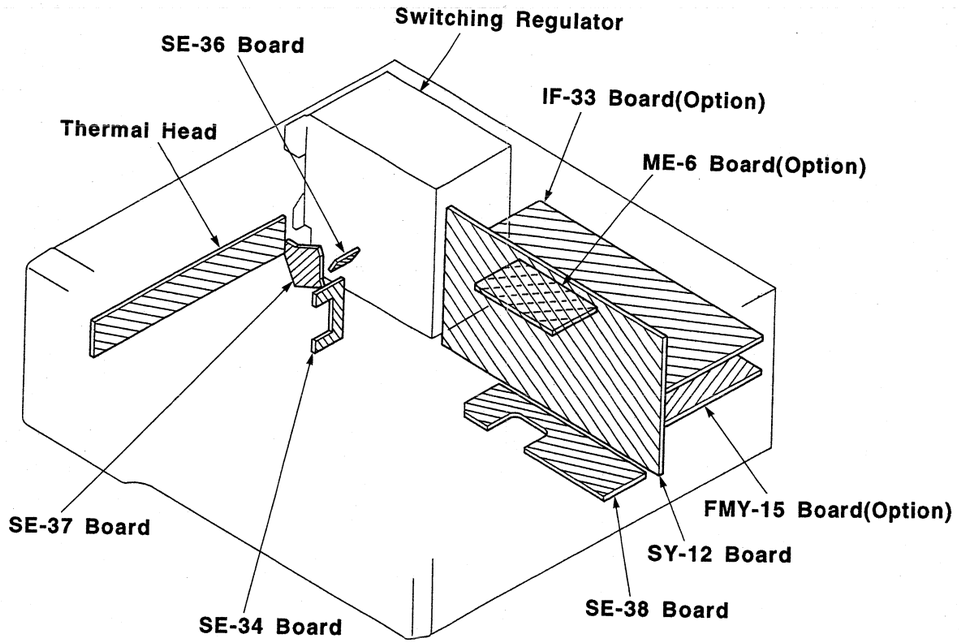


2-15. REMOVING THE OPTIONAL BOARDS (IF-33 AND FMY-15 BOARDS)



SECTION 3
DIAGRAMS

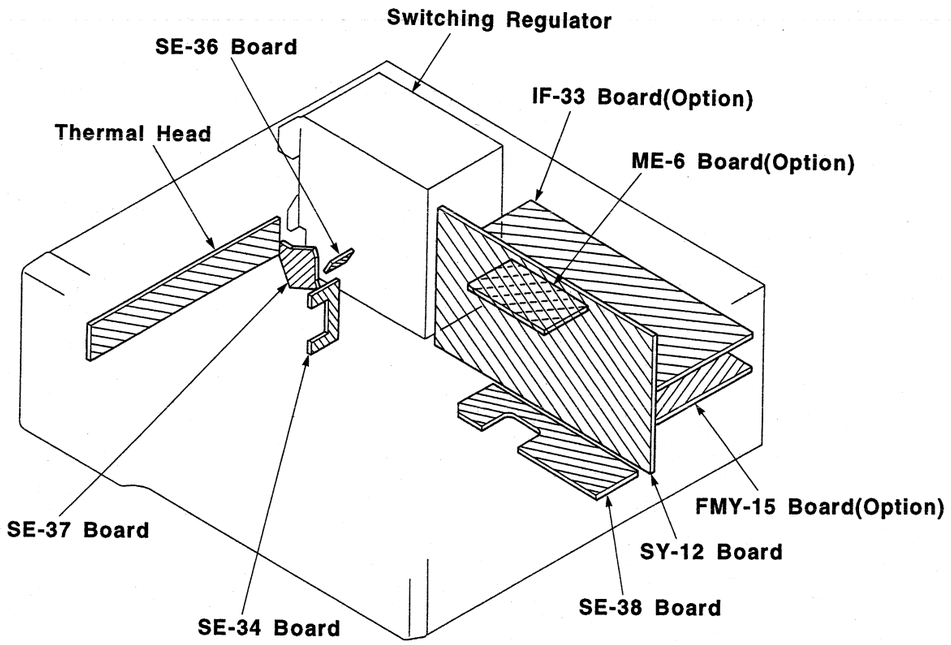
3-1. CIRCUIT BOARDS LOCATION

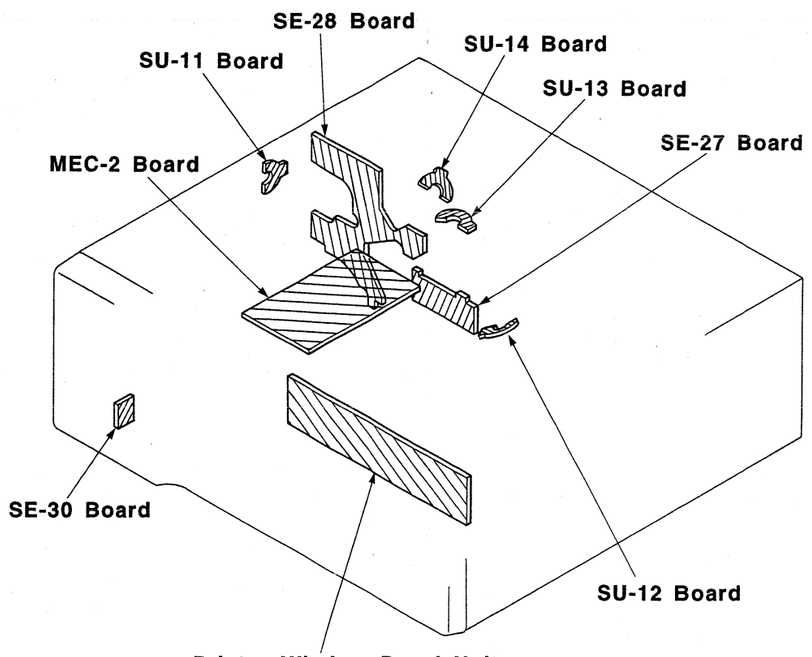


SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

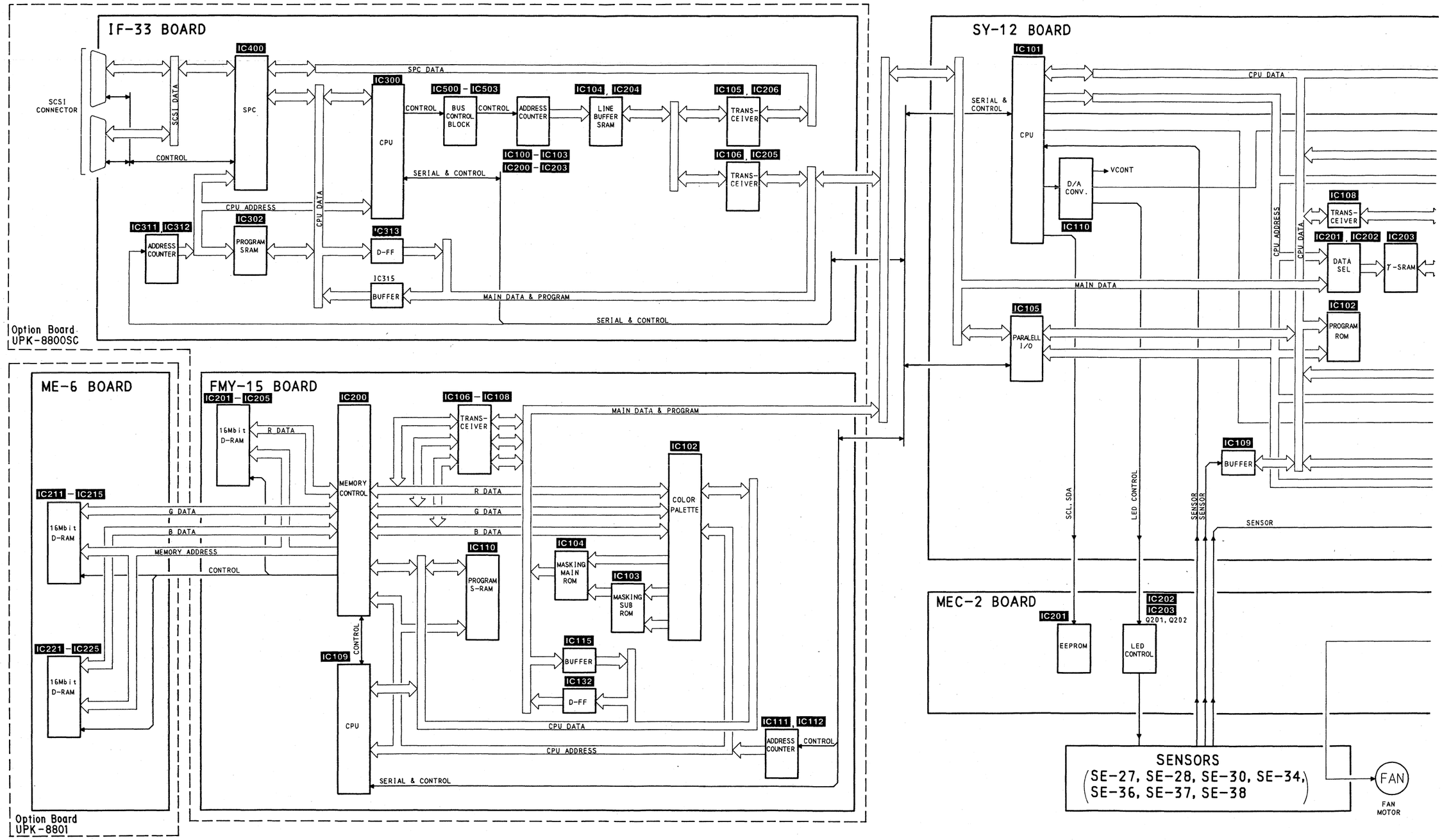
crews (B3×6)

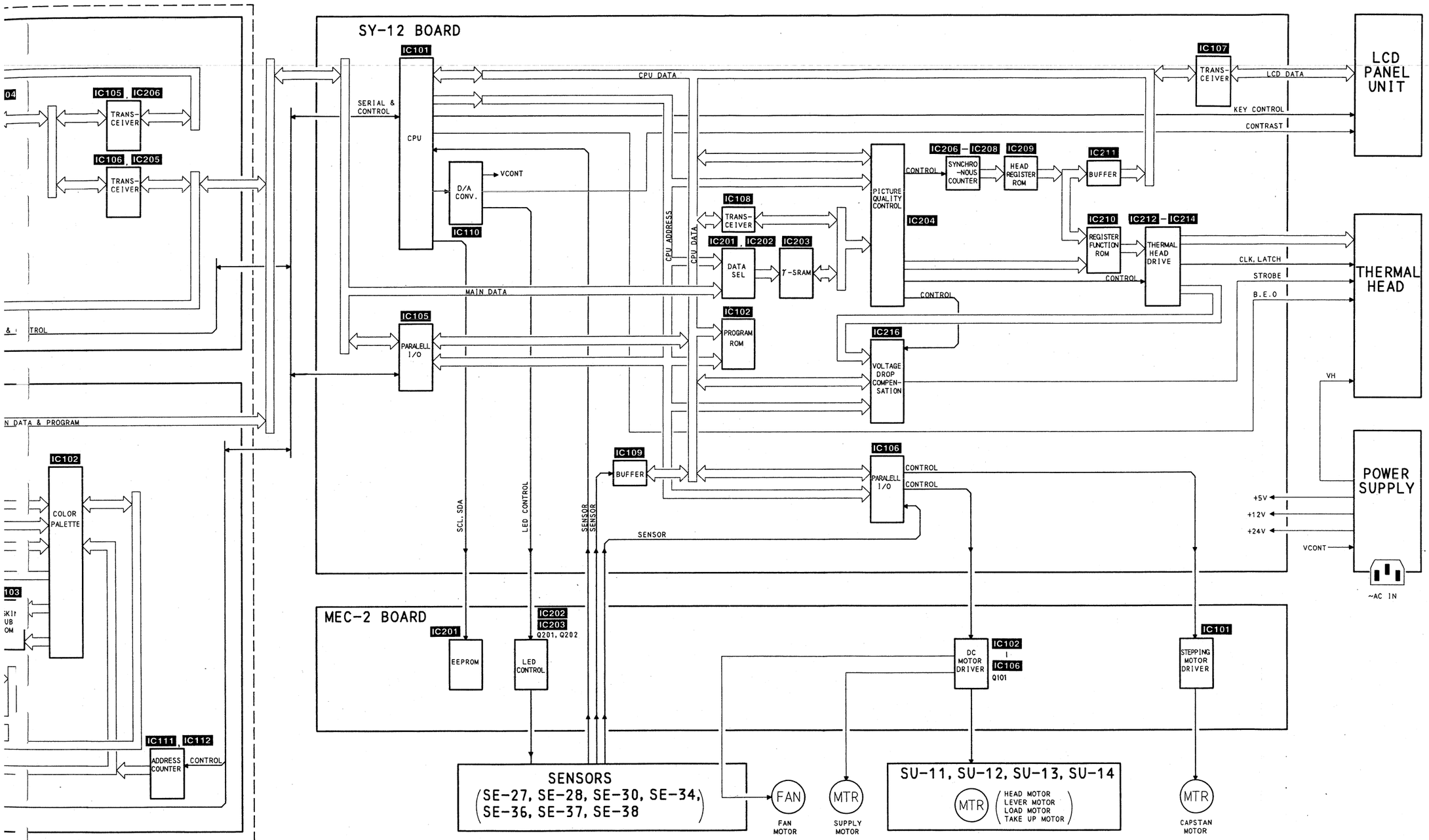




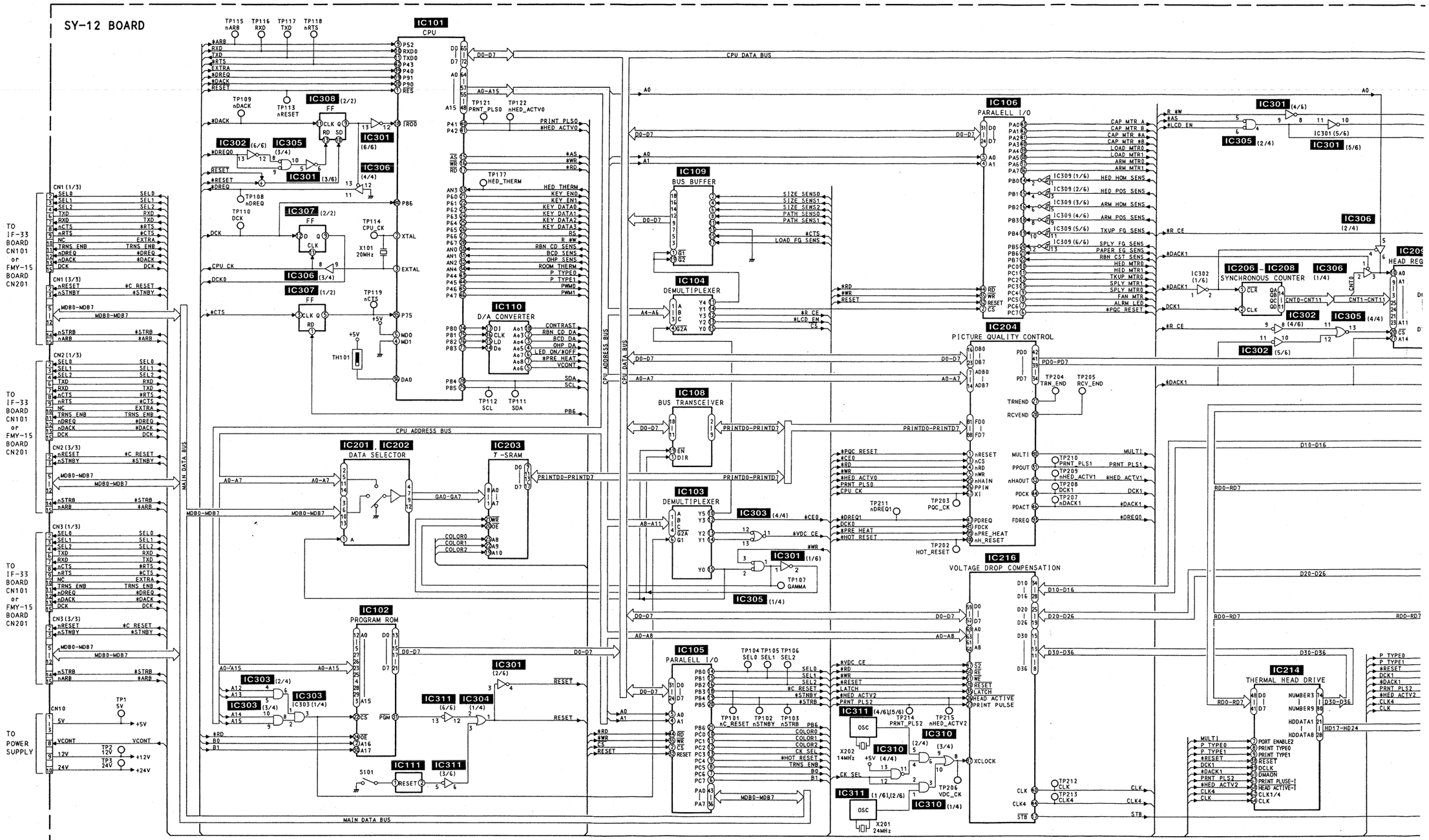
Printer Window Panel Unit

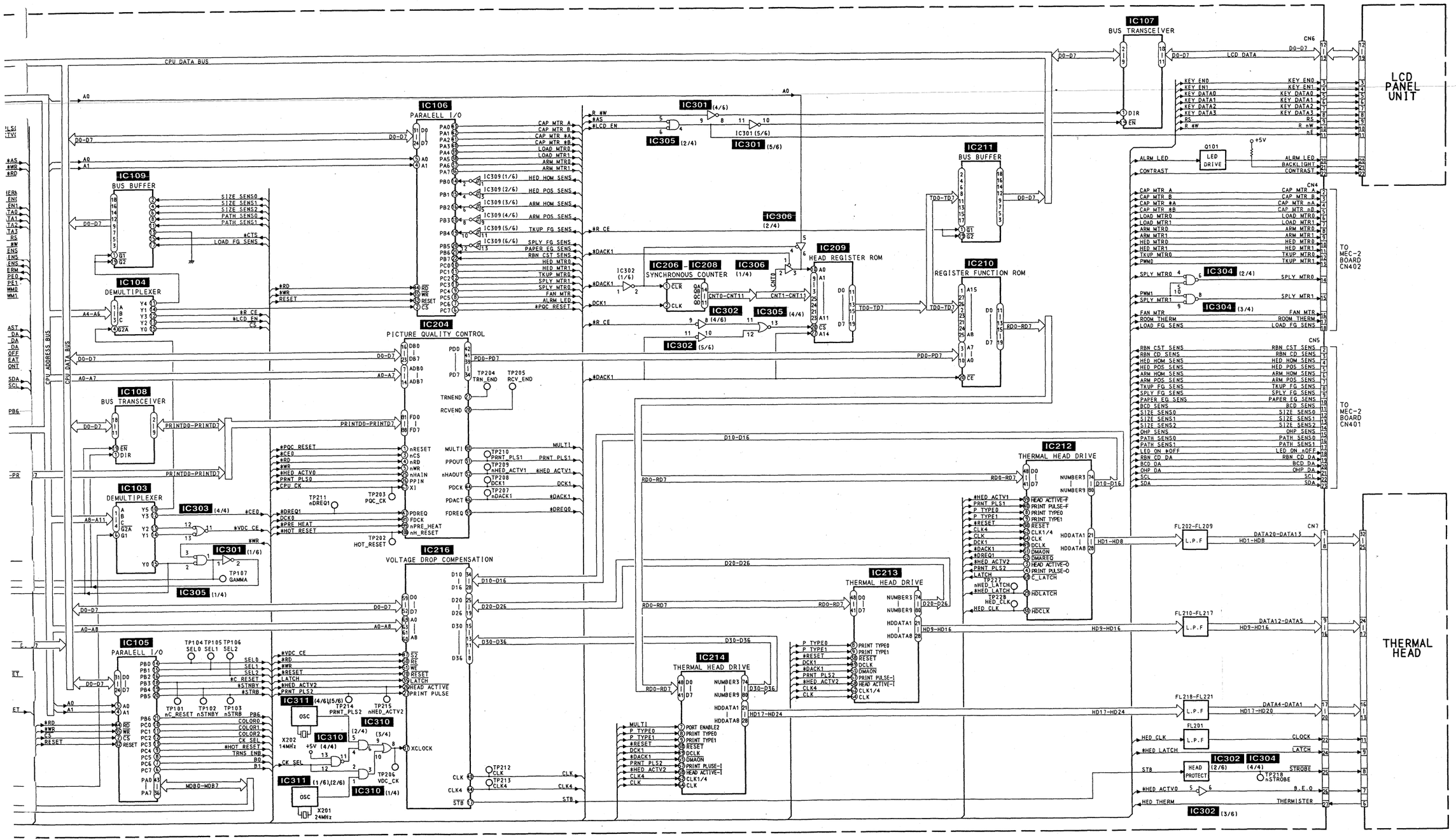
3-2. OVERALL BLOCK DIAGRAM



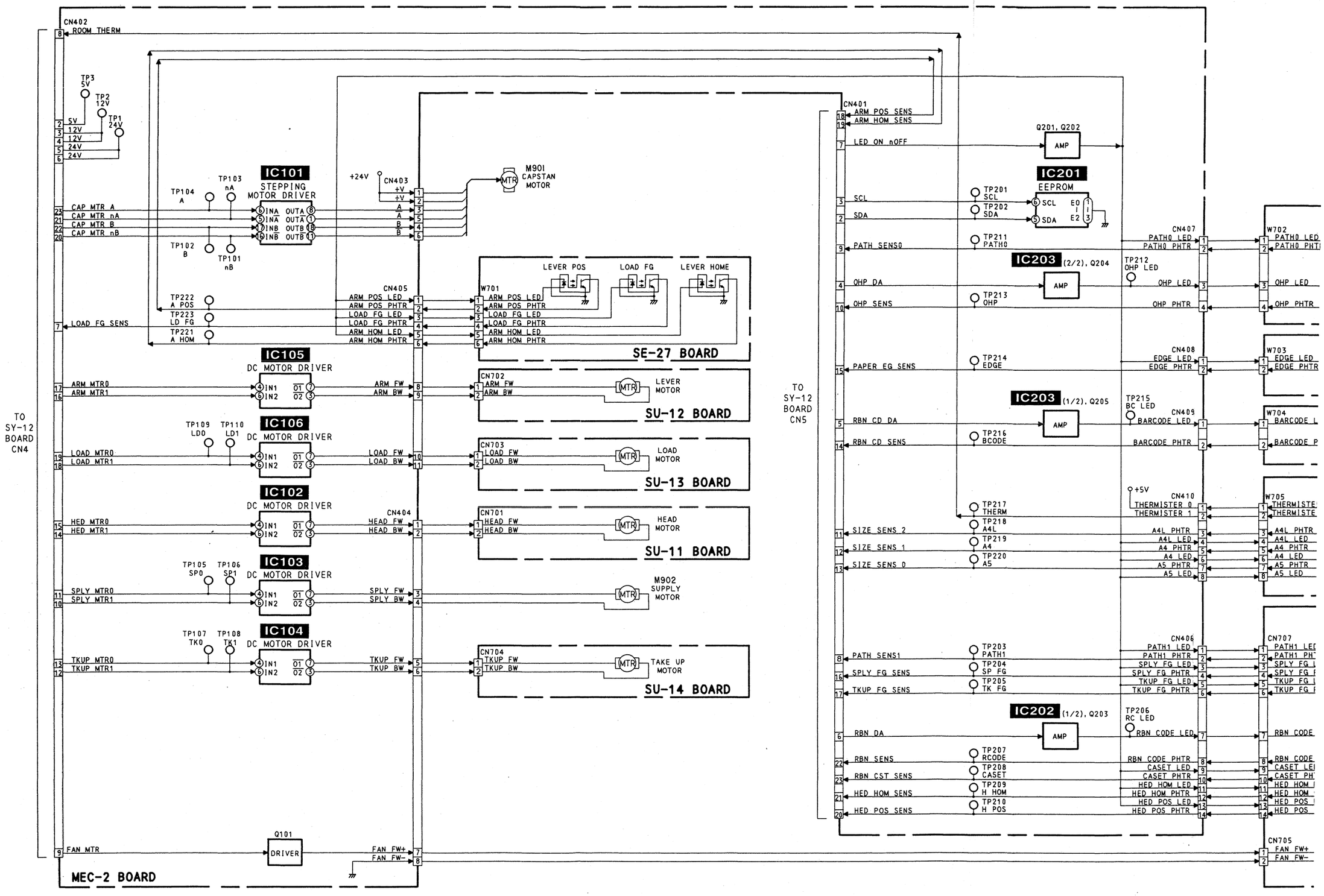

SY-12 BOARD
IC101
CPU
SERIAL & CONTROL
CPU DATA
CPU ADDRESS
CPU DATA
VCONT
D/A CONV.
IC110
IC105 , IC206
TRANS-CEIVER
IC106 , IC205
TRANS-CEIVER
IC108
TRANS-CEIVER
IC201 , IC202
DATA SEL
IC203
Y-SRAM
MAIN DATA
IC105
PARALELL I/O
IC102
PROGRAM ROM
PICTURE QUALITY CONTROL
IC204
CONTROL
IC206 – IC208
SYNCHRO-NOUS COUNTER
IC209
HEAD REGISTER ROM
IC211
BUFFER
IC210
REGISTER FUNCTION ROM
IC212 – IC214
THERMAL HEAD DRIVE
CONTROL
CONTROL
IC216
VOLTAGE DROP COMPEN-SATION
IC107
TRANS-CEIVER
LCD DATA
KEY CONTROL
CONTRAST
LCD PANEL UNIT
CLK, LATCH
STROBE
B.E.O
THERMAL HEAD
VH
IC109
BUFFER
IC106
PARALELL I/O
CONTROL
CONTROL
SENSOR
SCL, SDA
LED CONTROL
SENSOR
SENSOR
+5V
+12V
+24V
VCONT
POWER SUPPLY
~AC IN
MEC-2 BOARD
IC201
EEPROM
IC202
IC203
Q201, Q202
LED CONTROL
IC102
–
IC106
Q101
DC MOTOR DRIVER
IC101
STEPPING MOTOR DRIVER
SENSORS
(SE-27, SE-28, SE-30, SE-34, SE-36, SE-37, SE-38
FAN
FAN MOTOR
MTR
SUPPLY MOTOR
SU-11, SU-12, SU-13, SU-14
MTR
HEAD MOTOR
LEVER MOTOR
LOAD MOTOR
TAKE UP MOTOR
MTR
CAPSTAN MOTOR
N DATA & PROGRAM
IC102
COLOR PALETTE
IC111 , IC112
ADDRESS COUNTER
CONTROL

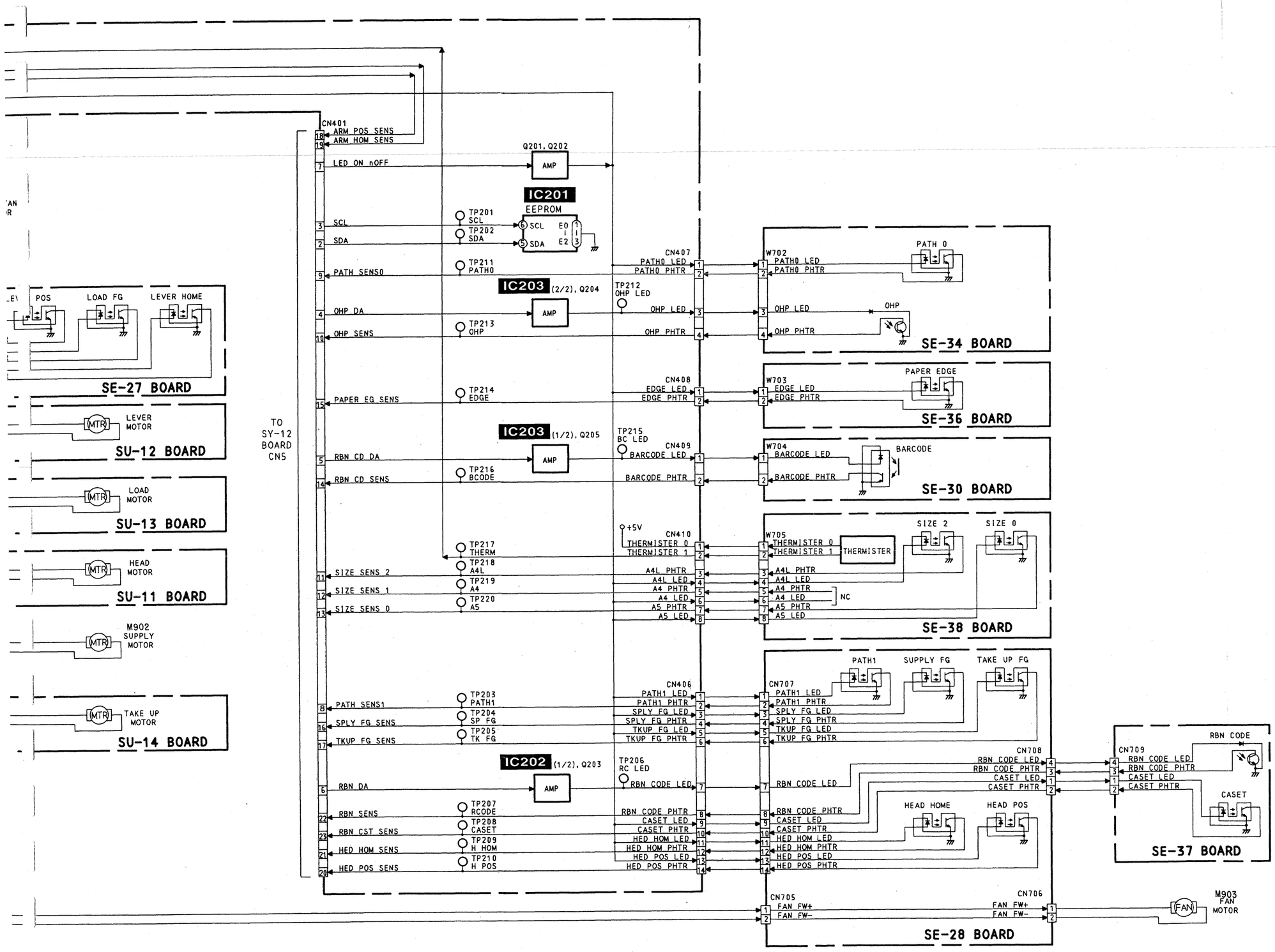
3-3. SYSTEM CONTROL BLOCK DIAGRAM




CPU DATA BUS
CPU ADDRESS BUS
IC106
PARALELL I/O
IC107
BUS TRANSCEIVER
IC109
BUS BUFFER
IC104
DEMULTIPLEXER
IC204
PICTURE QUALITY CONTROL
IC108
BUS TRANSCEIVER
IC103
DEMULTIPLEXER
IC303 (4/4)
IC301 (1/6)
IC305 (1/4)
IC105
PARALELL I/O
IC216
VOLTAGE DROP COMPENSATION
IC301 (4/6)
IC305 (2/4)
IC301 (5/6)
IC306 (2/4)
IC206 - IC208
SYNCHRONOUS COUNTER
IC306 (1/4)
IC302 (1/6)
IC209
HEAD REGISTER ROM
IC302 (4/6)
IC305 (4/4)
IC302 (5/6)
IC211
BUS BUFFER
IC210
REGISTER FUNCTION ROM
IC212
THERMAL HEAD DRIVE
IC213
THERMAL HEAD DRIVE
IC214
THERMAL HEAD DRIVE
IC311 (4/6),(5/6)
IC310 (2/4)
IC310 (3/4)
IC311 (1/6),(2/6)
IC310 (1/4)
IC304 (2/4)
IC304 (3/4)
IC302 (2/6)
IC304 (4/4)
IC302 (3/6)
Q101
LED DRIVE
+5V
X202 14MHz
X201 24MHz
LCD PANEL UNIT
THERMAL HEAD
TO MEC-2 BOARD CN402
TO MEC-2 BOARD CN401
CN6
CN4
CN5
CN7
FL202-FL209
FL210-FL217
FL218-FL221
FL201
L.P.F
HEAD PROTECT
TP101 nC_RESET
TP102 nSTNBY
TP103 nSTRB
TP104 SEL0
TP105 SEL1
TP106 SEL2
TP107 GAMMA
TP202 HOT_RESET
TP203 PQC_CK
TP204 TRN_END
TP205 RCV_END
TP206 VDC_CK
TP207 nDACK1
TP208 DCK1
TP209 nHED_ACTV1
TP210 PRNT_PLS1
TP211 nDREQ1
TP212 CLK
TP213 CLK4
TP214 PRNT_PLS2
TP215 nHED_ACTV2
TP218 nSTROBE
TP227 nHED_LATCH
TP228 HED_CLK
D0-D7
A0-A7
A0-A8
A8-A11
A4-A5
PRINTD0-PRINTD7
PD0-PD7
RD0-RD7
D10-D16
D20-D26
D30-D36
HD1-HD8
HD9-HD16
HD17-HD24
MDB0-MDB7
CAP MTR A
CAP MTR B
CAP MTR #A
CAP MTR #B
LOAD MTR0
LOAD MTR1
ARM MTR0
ARM MTR1
HED HOM SENS
HED POS SENS
ARM HOM SENS
ARM POS SENS
TKUP FG SENS
SPLY FG SENS
PAPER EG SENS
RBN CST SENS
HED MTR0
HED MTR1
TKUP MTR0
SPLY MTR1
SPLY MTR0
FAN MTR
ALARM LED
#PQC RESET
SIZE SENS0
SIZE SENS1
SIZE SENS2
PATH SENS0
PATH SENS1
#CTS
LOAD FG SENS
#R CE
#LCD EN
#RD
#WR
RESET
#CE0
#PRE HEAT
#HOT RESET
#VDC CE
#DACK1
DCK1
DCLK
#DREQ0
#DREQ1
PDREQ
PDCK
nPRE_HEAT
nH_RESET
MULTI1
PRNT PLS1
#HED ACTV1
PRNT PLS0
CPU CK
TRNEND
RCVEND
PPOUT
nHAOUT
PDCK
PDACT
FDREQ
PIN
XCLOCK
CLK
CLK4
STB
#HED ACTV2
#PRNT PLS2
#HED ACTIVE-I
PRINT PULSE-I
PRINT TYPE0
PRINT TYPE1
P TYPE0
P TYPE1
#RESET
#HED ACTIVE-F
PRINT PULSE-F
PRINT TYPE0
PRINT TYPE1
RESET
CLK1/4
DMAON
DMAREQ
#HED ACTIVE-O
PRINT PULSE-O
C_LATCH
HDLATCH
HDCLK
HDDATA1
HDDATA8
NUMBER3
NUMBER9
PORT ENABLE2
LCD DATA
KEY EN0
KEY EN1
KEY DATA0
KEY DATA1
KEY DATA2
KEY DATA3
RS
R_#W
nE
ALARM LED
BACKLIGHT
CONTRAST
CAP MTR nA
CAP MTR nB
HED MTR1
TKUP MTR1
PWM0
PWM1
ROOM THERM
LOAD FG SENS
RBN CD SENS
HED HOM SENS
HED POS SENS
ARM HOM SENS
ARM POS SENS
TKUP FG SENS
SPLY FG SENS
PAPER EG SENS
BCD SENS
OHP SENS
LED ON #OFF
RBN CD DA
BCD DA
OHP DA
SCL
SDA
CLOCK
LATCH
STROBE
B.E.Q
THERMISTER
HED CLK
HED LATCH
HED THERM
#HED ACTV0
CNT0-CNT11
CNT1-CNT11
CNT0
CNT1
MDB0
MDB1
COLOR0
COLOR1
COLOR2
CK SEL
#HOT RESET
TRNS ENB
B0
B1
#RD
#WR
#CS
#RESET
#R/W
#AS
#LCD EN
#C RESET
#STNBY
#STRB
#HED ACTV2
#PRNT PLS2
HEAD ACTIVE
PRINT PULSE
SEL0
SEL1
SEL2
#VDC CE
#CE0
#PRE HEAT
#HOT RESET
nRESET
nCS
nRD
nWR
nHAIN
PPIN
X1
PDREQ
PDCK
nPRE_HEAT
nH_RESET
MULTI1
PRNT PLS1
#HED ACTV1
DCK1
#DACK1
#DREQ0
#DREQ1
PDREQ
FDCK
nPRE_HEAT
nH_RESET
D10
D16
D20
D26
D30
D36
D0
D7
A0
A1
A11
A14
A15
AB
CE
CLR
CLK
QA
QB
QC
QD
CS
G1
G2A
G2B
DIR
EN
OE
RESET
RD
WR
CS
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PC0
PC1
PC2
PC3
PC4
PC5
PC6
PC7
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
DB0
DB7
ADB0
ADB7
FD0
FD7
DO
DI
CLK1/4
DCLK
DMAON
DMAREQ
HDDATA1
HDDATA8
NUMBER3
NUMBER9
PORT ENABLE2
PRINT TYPE0
PRINT TYPE1
RESET
DCLK
DMAON
PRINT PLUSE-I
HEAD ACTIVE-I
CLK1/4
CLK
OSC
+5V (4/4)
(2/4)
(3/4)
(1/6),(2/6)
(1/4)
(4/6),(5/6)
(2/6)
(4/4)
(3/6)

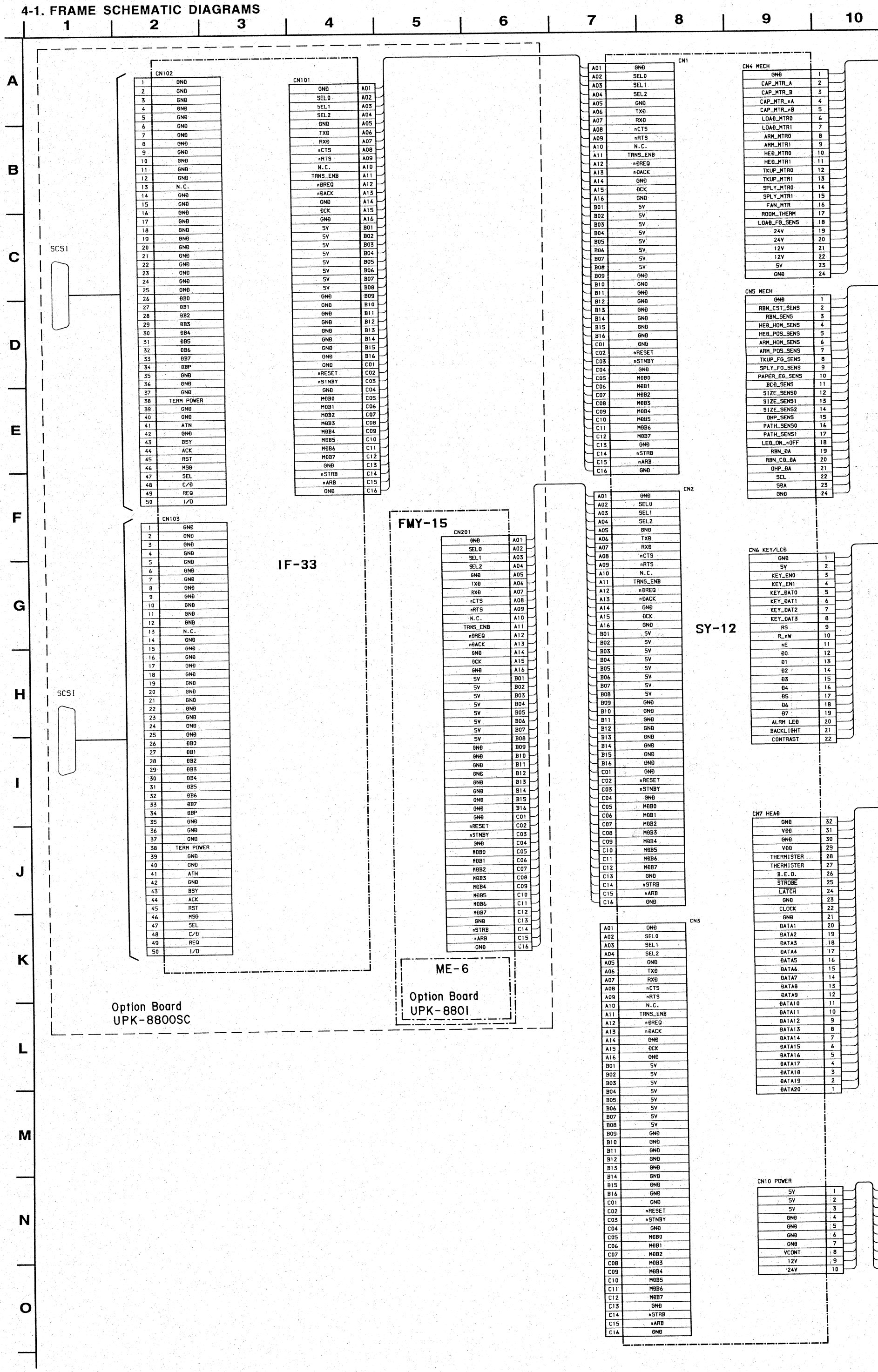
3-4. MECHA CONTROL BLOCK DIAGRAM




CN401
ARM POS SENS
ARM HOM SENS
LED ON nOFF
Q201, Q202
AMP
IC201
EEPROM
SCL
SDA
TP201 SCL
TP202 SDA
TP211 PATH0
PATH SENS0
IC203 (2/2), Q204
TP212 OHP LED
OHP DA
OHP SENS
TP213 OHP
TP214 EDGE
PAPER EG SENS
IC203 (1/2), Q205
TP215 BC LED
RBN CD DA
RBN CD SENS
TP216 BCODE
+5V
TP217 THERM
TP218 A4L
TP219 A4
TP220 A5
SIZE SENS 2
SIZE SENS 1
SIZE SENS 0
TP203 PATH1
TP204 SP FG
TP205 TK FG
PATH SENS1
SPLY FG SENS
TKUP FG SENS
IC202 (1/2), Q203
TP206 RC LED
RBN DA
TP207 RCODE
TP208 CASET
TP209 H HOM
TP210 H POS
RBN SENS
RBN CST SENS
HED HOM SENS
HED POS SENS
TO SY-12 BOARD CN5
CN407
PATH0 LED
PATH0 PHTR
CN408
EDGE LED
EDGE PHTR
CN409
BARCODE LED
BARCODE PHTR
CN410
THERMISTER 0
THERMISTER 1
A4L PHTR
A4L LED
A4 PHTR
A4 LED
A5 PHTR
A5 LED
CN406
PATH1 LED
PATH1 PHTR
SPLY FG LED
SPLY FG PHTR
TKUP FG LED
TKUP FG PHTR
RBN CODE LED
RBN CODE PHTR
CASET LED
CASET PHTR
HED HOM LED
HED HOM PHTR
HED POS LED
HED POS PHTR
CN705
FAN FW+
FAN FW-
CN706
CN707
CN708
W702
W703
W704
W705
PATH 0
OHP
PAPER EDGE
BARCODE
THERMISTER
SIZE 2
SIZE 0
NC
PATH1
SUPPLY FG
TAKE UP FG
HEAD HOME
HEAD POS
RBN CODE
CASET
CN709
SE-27 BOARD
POS
LOAD FG
LEVER HOME
SU-12 BOARD
LEVER MOTOR
SU-13 BOARD
LOAD MOTOR
SU-11 BOARD
HEAD MOTOR
M902 SUPPLY MOTOR
SU-14 BOARD
TAKE UP MOTOR
SE-34 BOARD
SE-36 BOARD
SE-30 BOARD
SE-38 BOARD
SE-37 BOARD
SE-28 BOARD
M903 FAN MOTOR

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAMS



9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20

MEC-2

CN4 MECH

GND	1
CAP_MTR_A	2
CAP_MTR_B	3
CAP_MTR_nA	4
CAP_MTR_nB	5
LOAD_MTR0	6
LOAD_MTR1	7
ARM_MTR0	8
ARM_MTR1	9
HED_MTR0	10
HED_MTR1	11
TKUP_MTR0	12
TKUP_MTR1	13
SPLY_MTR0	14
SPLY_MTR1	15
FAN_MTR	16
ROOM_THERM	17
LOAD_FG_SENS	18
24V	19
24V	20
12V	21
12V	22
5V	23
GND	24

CN402 SYS_MTR

24	GND
23	CAP_MTR_A
22	CAP_MTR_B
21	CAP_MTR_nA
20	CAP_MTR_nB
19	LOAD_MTR0
18	LOAD_MTR1
17	ARM_MTR0
16	ARM_MTR1
15	HED_MTR0
14	HED_MTR1
13	TKUP_MTR0
12	TKUP_MTR1
11	SPLY_MTR0
10	SPLY_MTR1
9	FAN_MTR
8	ROOM_THERM
7	LOAD_FG_SENS
6	24V
5	24V
4	12V
3	12V
2	5V
1	GND

CN5 MECH

GND	1
RBN_CST_SENS	2
RBN_SENS	3
HED_HOM_SENS	4
HED_POS_SENS	5
ARM_HOM_SENS	6
ARM_POS_SENS	7
TKUP_FG_SENS	8
SPLY_FG_SENS	9
PAPER_EG_SENS	10
BCD_SENS	11
SIZE_SENS0	12
SIZE_SENS1	13
SIZE_SENS2	14
OHP_SENS	15
PATH_SENS0	16
PATH_SENS1	17
LED_ON_nOFF	18
RBN_DA	19
RBN_CD_DA	20
OHP_DA	21
SCL	22
SDA	23
GND	24

CN401 SYS_SENS

24	GND
23	RBN_CST_SENS
22	RBN_SENS
21	HED_HOM_SENS
20	HED_POS_SENS
19	ARM_HOM_SENS
18	ARM_POS_SENS
17	TKUP_FG_SENS
16	SPLY_FG_SENS
15	PAPER_EG_SENS
14	BCD_SENS
13	SIZE_SENS0
12	SIZE_SENS1
11	SIZE_SENS2
10	OHP_SENS
9	PATH_SENS0
8	PATH_SENS1
7	LED_ON_nOFF
6	RBN_DA
5	RBN_CD_DA
4	OHP_DA
3	SCL
2	SDA
1	GND

CN403 CAP_MTR

+V	1
+V	2
A	3
B	4
$\overline{A}$	5
$\overline{B}$	6

M901 CAPSTAN MOTOR

CN404 HEAD_RBN

HEAD_FW	1
HEAD_BW	2
SPLY_FW	3
SPLY_BW	4
TKUP_FW	5
TKUP_BW	6
FAN_FW+	7
FAN_FW-	8

M902 SUPPLY MOTOR

SU-11

CN701

1	HEAD_FW
2	HEAD_BW

SU-14

CN704

1	TKUP_FW
2	TKUP_BW

SE-28

CN705

1	FAN_FW+
2	FAN_FW-

CN706

FAN_FW+	1
FAN_FW-	2

M903 FAN MOTOR

CN406

PATH1_LED	1
PATH1_PHTR	2
SPLY_FG_LED	3
SPLY_FG_PHTR	4
TKUP_FG_LED	5
TKUP_FG_PHTR	6
RBNCODE_LED	7
RBNCODE_PHTR	8
CASET_LED	9
CASET_PHTR	10
HEADHOM_LED	11
HEADHOM_PHTR	12
HEADPOS_LED	13
HEADPOS_PHTR	14
GND	15

CN707

1	PATH1_LED
2	PATH1_PHTR
3	SPLY_FG_LED
4	SPLY_FG_PHTR
5	TKUP_FG_LED
6	TKUP_FG_PHTR
7	RBNCODE_LED
8	RBNCODE_PHTR
9	CASET_LED
10	CASET_PHTR
11	HEADHOM_LED
12	HEADHOM_PHTR
13	HEADPOS_LED
14	HEADPOS_PHTR
15	GND

CN708

CASET_LED	1
CASET_PHTR	2
RBNCODE_PHTR	3
RBNCODE_LED	4
GND	5
GND	6
GND	7

W701 → SE-27

CN405 ARM_LOAD

ARMPOS_LED	1
ARMPOS_PHTR	2
LOAD_FG_LED	3
LOAD_FG_PHTR	4
ARMHOM_LED	5
ARMHOM_PHTR	6
GND	7
ARM_FW	8
ARM_BW	9
LOAD_FW	10
LOAD_BW	11

SU-12

CN702

1	ARM_FW
2	ARM_BW

SU-13

CN703

1	LOAD_FW
2	LOAD_BW

W702 → SE-34

CN407 PATH0_OHP

PATH0_LED	1
PATH0_PHTR	2
OHP_LED	3
OHP_PHTR	4
GND	5

W703 → SE-36

CN408 PAPER EDGE

EDGE_LED	1
EDGE_PHTR	2
GND	3

W704 → SE-30

CN409 BARCODE

BARCODE_LED	1
BARCODE_PHTR	2
GND	3

W705 → SE-38

CN410 SIZE

THERMISTER_0	1
THERMISTER_1	2
A4L_PHTR	3
A4L_LED	4
A4_PHTR	5
A4_LED	6
A5_PHTR	7
A5_LED	8
GND	9

CN6 KEY/LCD

GND	1
5V	2
KEY_EN0	3
KEY_EN1	4
KEY_DAT0	5
KEY_DAT1	6
KEY_DAT2	7
KEY_DAT3	8
RS	9
R_nW	10
nE	11
D0	12
D1	13
D2	14
D3	15
D4	16
D5	17
D6	18
D7	19
ALRM LED	20
BACKLIGHT	21
CONTRAST	22

KY

22	GND
21	5V
20	KEY_EN0
19	KEY_EN1
18	KEY_DAT0
17	KEY_DAT1
16	KEY_DAT2
15	KEY_DAT3
14	RS
13	R_nW
12	nE
11	D0
10	D1
9	D2
8	D3
7	D4
6	D5
5	D6
4	D7
3	ALRM LED
2	BACKLIGHT
1	CONTRAST

CN7 HEAD

GND	32
VDD	31
GND	30
VDD	29
THERMISTER	28
THERMISTER	27
B.E.O.	26
$\overline{STROBE}$	25
$\overline{LATCH}$	24
GND	23
CLOCK	22
GND	21
DATA1	20
DATA2	19
DATA3	18
DATA4	17
DATA5	16
DATA6	15
DATA7	14
DATA8	13
DATA9	12
DATA10	11
DATA11	10
DATA12	9
DATA13	8
DATA14	7
DATA15	6
DATA16	5
DATA17	4
DATA18	3
DATA19	2
DATA20	1

HEAD

1	GND
2	VDD
3	GND
4	VDD
5	THERMISTER
6	THERMISTER
7	B.E.O.
8	$\overline{STROBE}$
9	$\overline{LATCH}$
10	GND
11	CLOCK
12	GND
13	DATA1
14	DATA2
15	DATA3
16	DATA4
17	DATA5
18	DATA6
19	DATA7
20	DATA8
21	DATA9
22	DATA10
23	DATA11
24	DATA12
25	DATA13
26	DATA14
27	DATA15
28	DATA16
29	DATA17
30	DATA18
31	DATA19
32	DATA20

CN10 POWER

5V	1
5V	2
5V	3
GND	4
GND	5
GND	6
GND	7
VCONT	8
12V	9
24V	10

POWER

1	5V
2	5V
3	5V
4	GND
5	GND
6	GND
7	GND
8	VCONT
9	12V
10	24V

GND	1
GND	2
GND	3
VH	4
VH	5
VH	6

1	GND
2	GND
3	GND
4	VH
5	VH
6	VH

~AC IN

8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19

CN1

CN4 MECH

GND	1
CAP_MTR_A	2
CAP_MTR_B	3
CAP_MTR_nA	4
CAP_MTR_nB	5
LOAD_MTR0	6
LOAD_MTR1	7
ARM_MTR0	8
ARM_MTR1	9
HED_MTR0	10
HED_MTR1	11
TKUP_MTR0	12
TKUP_MTR1	13
SPLY_MTR0	14
SPLY_MTR1	15
FAN_MTR	16
ROOM_THERM	17
LOAD_FG_SENS	18
24V	19
24V	20
12V	21
12V	22
5V	23
GND	24

CN5 MECH

GND	1
RBN_CST_SENS	2
RBN_SENS	3
HED_HOM_SENS	4
HED_POS_SENS	5
ARM_HOM_SENS	6
ARM_POS_SENS	7
TKUP_FG_SENS	8
SPLY_FG_SENS	9
PAPER_EG_SENS	10
BCD_SENS	11
SIZE_SENS0	12
SIZE_SENS1	13
SIZE_SENS2	14
OHP_SENS	15
PATH_SENS0	16
PATH_SENS1	17
LED_ON_nOFF	18
RBN_DA	19
RBN_CD_DA	20
OHP_DA	21
SCL	22
SDA	23
GND	24

CN6 KEY/LCD

GND	1
5V	2
KEY_EN0	3
KEY_EN1	4
KEY_DAT0	5
KEY_DAT1	6
KEY_DAT2	7
KEY_DAT3	8
RS	9
R_nW	10
nE	11
D0	12
D1	13
D2	14
D3	15
D4	16
D5	17
D6	18
D7	19
ALRM LED	20
BACKLIGHT	21
CONTRAST	22

SY-12

CN7 HEAD

GND	32
VDD	31
GND	30
VDD	29
THERMISTER	28
THERMISTER	27
B.E.D.	26
STROBE	25
LATCH	24
GND	23
CLOCK	22
GND	21
DATA1	20
DATA2	19
DATA3	18
DATA4	17
DATA5	16
DATA6	15
DATA7	14
DATA8	13
DATA9	12
DATA10	11
DATA11	10
DATA12	9
DATA13	8
DATA14	7
DATA15	6
DATA16	5
DATA17	4
DATA18	3
DATA19	2
DATA20	1

CN10 POWER

5V	1
5V	2
5V	3
GND	4
GND	5
GND	6
GND	7
VCONT	8
12V	9
24V	10

N2

N3

CN402 SYS_MTR

24	GND
23	CAP_MTR_A
22	CAP_MTR_B
21	CAP_MTR_nA
20	CAP_MTR_nB
19	LOAD_MTR0
18	LOAD_MTR1
17	ARM_MTR0
16	ARM_MTR1
15	HED_MTR0
14	HED_MTR1
13	TKUP_MTR0
12	TKUP_MTR1
11	SPLY_MTR0
10	SPLY_MTR1
9	FAN_MTR
8	ROOM_THERM
7	LOAD_FG_SENS
6	24V
5	24V
4	12V
3	12V
2	5V
1	GND

CN401 SYS_SENS

24	GND
23	RBN_CST_SENS
22	RBN_SENS
21	HED_HOM_SENS
20	HED_POS_SENS
19	ARM_HOM_SENS
18	ARM_POS_SENS
17	TKUP_FG_SENS
16	SPLY_FG_SENS
15	PAPER_EG_SENS
14	BCD_SENS
13	SIZE_SENS0
12	SIZE_SENS1
11	SIZE_SENS2
10	OHP_SENS
9	PATH_SENS0
8	PATH_SENS1
7	LED_ON_nOFF
6	RBN_DA
5	RBN_CD_DA
4	OHP_DA
3	SCL
2	SDA
1	GND

MEC-2

KY

HEAD

POWER

GND	1
GND	2
GND	3
VH	4
VH	5
VH	6

1	GND
2	GND
3	GND
4	VH
5	VH
6	VH

1	5V
2	5V
3	5V
4	GND
5	GND
6	GND
7	GND
8	VCONT
9	12V
10	24V

~AC IN

CN403 CAP_MTR

+V	1
+V	2
A	3
B	4
$\overline{A}$	5
$\overline{B}$	6

M901 CAPSTAN MOTOR

CN404 HEAD_RBN

HEAD_FW	1
HEAD_BW	2
SPLY_FW	3
SPLY_BW	4
TKUP_FW	5
TKUP_BW	6
FAN_FW+	7
FAN_FW-	8

M902 SUPPLY MOTOR

SU-11

CN701

1	HEAD_FW
2	HEAD_BW

SU-14

CN704

1	TKUP_FW
2	TKUP_BW

SE-28

CN705

1	FAN_FW+
2	FAN_FW-

CN706

FAN_FW+	1
FAN_FW-	2

CN406

PATH1_LED	1
PATH1_PHTR	2
SPLY_FG_LED	3
SPLY_FG_PHTR	4
TKUP_FG_LED	5
TKUP_FG_PHTR	6
RBNCODE_LED	7
RBNCODE_PHTR	8
CASET_LED	9
CASET_PHTR	10
HEADHOM_LED	11
HEADHOM_PHTR	12
HEADPOS_LED	13
HEADPOS_PHTR	14
GND	15

CN707

1	PATH1_LED
2	PATH1_PHTR
3	SPLY_FG_LED
4	SPLY_FG_PHTR
5	TKUP_FG_LED
6	TKUP_FG_PHTR
7	RBNCODE_LED
8	RBNCODE_PHTR
9	CASET_LED
10	CASET_PHTR
11	HEADHOM_LED
12	HEADHOM_PHTR
13	HEADPOS_LED
14	HEADPOS_PHTR
15	GND

CN708

CASET_LED	1
CASET_PHTR	2
RBNCODE_PHTR	3
RBNCODE_LED	4
GND	5
GND	6
GND	7

W701 SE-27

CN405 ARM_LOAD

ARMPOS_LED	1
ARMPOS_PHTR	2
LOAD_FG_LED	3
LOAD_FG_PHTR	4
ARMHOM_LED	5
ARMHOM_PHTR	6
GND	7
ARM_FW	8
ARM_BW	9
LOAD_FW	10
LOAD_BW	11

SU-12

CN702

1	ARM_FW
2	ARM_BW

SU-13

CN703

1	LOAD_FW
2	LOAD_BW

W702 SE-34

CN407 PATH0_OHP

PATH0_LED	1
PATH0_PHTR	2
OHP_LED	3
OHP_PHTR	4
GND	5

W703 SE-36

CN408 PAPER EDGE

EDGE_LED	1
EDGE_PHTR	2
GND	3

W704 SE-30

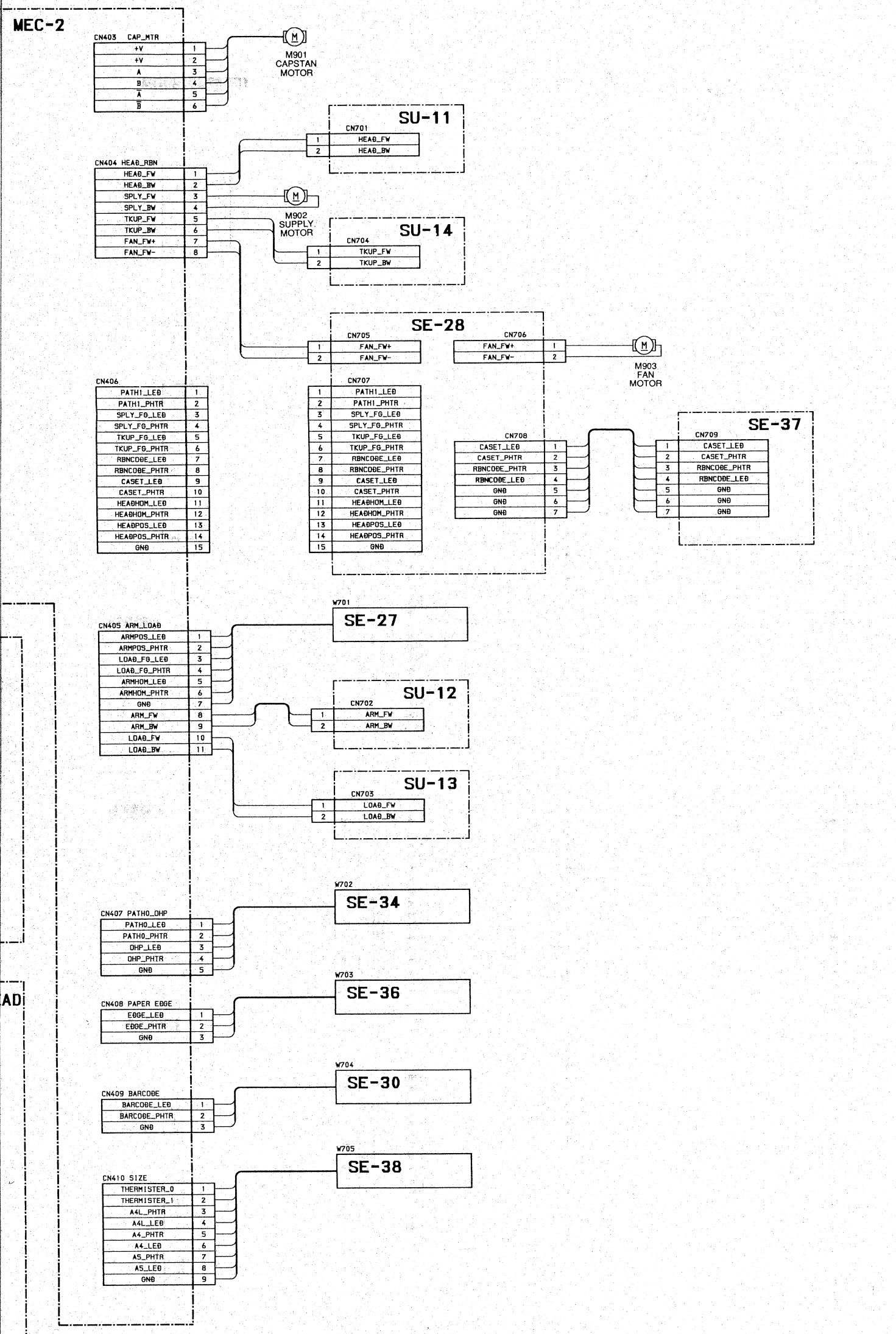
CN409 BARCODE

BARCODE_LED	1
BARCODE_PHTR	2
GND	3

W705 SE-38

CN410 SIZE

THERMISTER_0	1
THERMISTER_1	2
A4L_PHTR	3
A4L_LED	4
A4_PHTR	5
A4_LED	6
A5_PHTR	7
A5_LED	8
GND	9


MEC-2
CN403 CAP_MTR
+V 1
+V 2
A 3
B 4
Ā 5
B̄ 6
M901 CAPSTAN MOTOR
CN404 HEAD_RBN
HEAD_FW 1
HEAD_BW 2
SPLY_FW 3
SPLY_BW 4
TKUP_FW 5
TKUP_BW 6
FAN_FW+ 7
FAN_FW- 8
M902 SUPPLY MOTOR
SU-11
CN701
1 HEAD_FW
2 HEAD_BW
SU-14
CN704
1 TKUP_FW
2 TKUP_BW
SE-28
CN705
1 FAN_FW+
2 FAN_FW-
CN706
FAN_FW+ 1
FAN_FW- 2
M903 FAN MOTOR
CN406
PATH1_LED 1
PATH1_PHTR 2
SPLY_FG_LED 3
SPLY_FG_PHTR 4
TKUP_FG_LED 5
TKUP_FG_PHTR 6
RBNCODE_LED 7
RBNCODE_PHTR 8
CASET_LED 9
CASET_PHTR 10
HEADHOM_LED 11
HEADHOM_PHTR 12
HEADPOS_LED 13
HEADPOS_PHTR 14
GND 15
CN707
1 PATH1_LED
2 PATH1_PHTR
3 SPLY_FG_LED
4 SPLY_FG_PHTR
5 TKUP_FG_LED
6 TKUP_FG_PHTR
7 RBNCODE_LED
8 RBNCODE_PHTR
9 CASET_LED
10 CASET_PHTR
11 HEADHOM_LED
12 HEADHOM_PHTR
13 HEADPOS_LED
14 HEADPOS_PHTR
15 GND
CN708
CASET_LED 1
CASET_PHTR 2
RBNCODE_PHTR 3
RBNCODE_LED 4
GND 5
GND 6
GND 7
SE-37
CN709
1 CASET_LED
2 CASET_PHTR
3 RBNCODE_PHTR
4 RBNCODE_LED
5 GND
6 GND
7 GND
W701
SE-27
CN405 ARM_LOAD
ARMPOS_LED 1
ARMPOS_PHTR 2
LOAD_FG_LED 3
LOAD_FG_PHTR 4
ARMHOM_LED 5
ARMHOM_PHTR 6
GND 7
ARM_FW 8
ARM_BW 9
LOAD_FW 10
LOAD_BW 11
SU-12
CN702
1 ARM_FW
2 ARM_BW
SU-13
CN703
1 LOAD_FW
2 LOAD_BW
W702
SE-34
CN407 PATHO_OHP
PATHO_LED 1
PATHO_PHTR 2
OHP_LED 3
OHP_PHTR 4
GND 5
W703
SE-36
CN408 PAPER EDGE
EDGE_LED 1
EDGE_PHTR 2
GND 3
W704
SE-30
CN409 BARCODE
BARCODE_LED 1
BARCODE_PHTR 2
GND 3
W705
SE-38
CN410 SIZE
THERMISTER_0 1
THERMISTER_1 2
A4L_PHTR 3
A4L_LED 4
A4_PHTR 5
A4_LED 6
A5_PHTR 7
A5_LED 8
GND 9

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

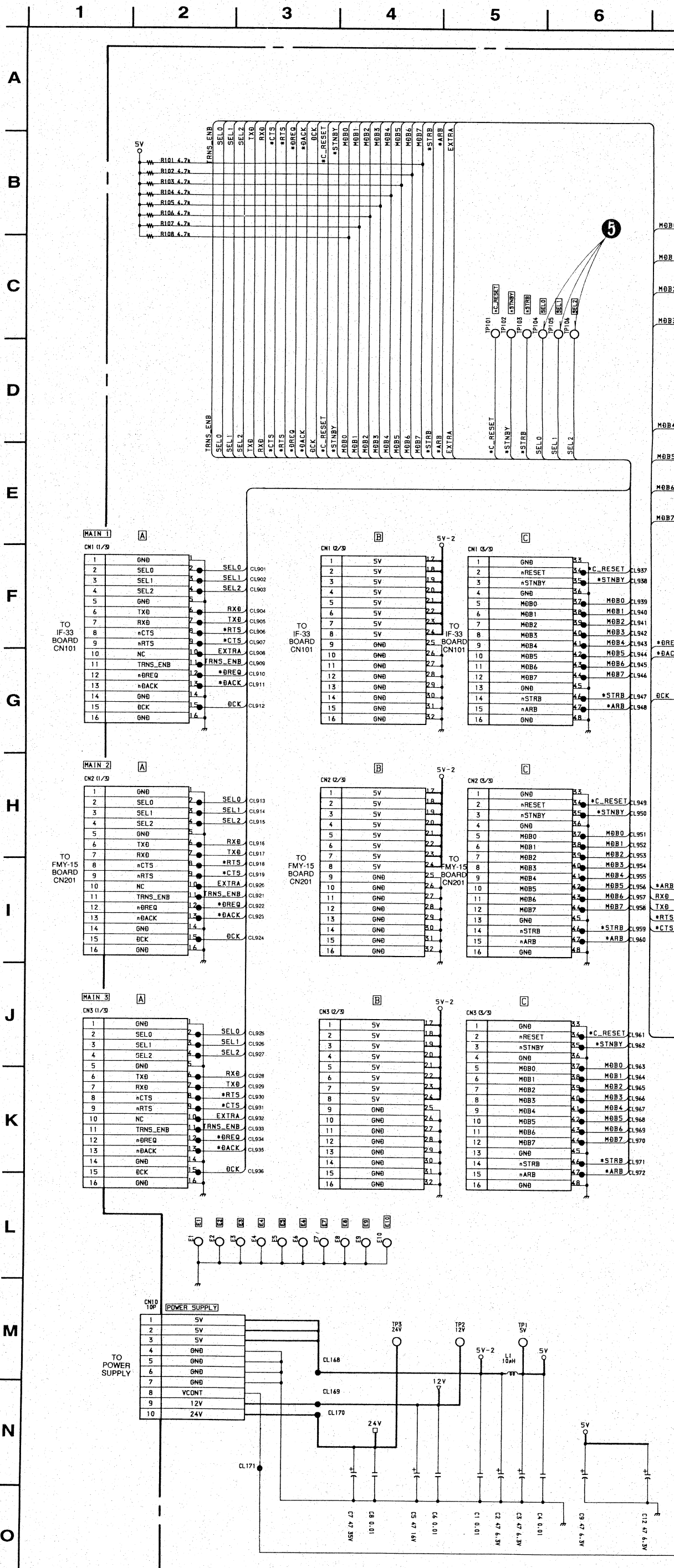
THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

- **For Printed Wiring Boards.**
- ▒▒▒▒ : Soldering Side.
- ▭ : Component Side.

- **For Schematic Diagrams.**
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/10W unless otherwise noted.
  kΩ: 1000Ω, MΩ: 1000kΩ.
- All capacitors are in μF unless otherwise noted.
  pF: μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusibe resistor.
- ▭ : adjustment for repeair.
- ▬▬ : B+ Line.
- ▬ ▬ ▬ : B− Line.
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltage variations may be noted due to normal production tolerances.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.



SYSTEM CONT. SY-12 SYSTEM CONT. SY-12

0000H-EFFFH	ROM (PROGRAM)
F000H-F0FFH	GAMMA
F100H-F2FFH	VBC
F300H-F4FFH	PQC
F500H-F503H	BUS CONTROL
F510H-F513H	MOTOR/SENSOR
F520H	LCD
F530H-F531H	R CONTROL
F540H	SENSOR
F780H-FB7FH	RESERVE
FB80H-FF80H	1kB RAM
FF88H-FFFFH	I/O-REGISTER

IC201 IC202
MULTIPLEXER

IC203
SRAM

IC301 IC305
SWITCH

IC302 IC305
SWITCH

IC303
SWITCH

IC304 IC311
SWITCH

IC306
BUFFER

IC307
FF

IC308
FF

IC311
INV.

IC301
INV.

IC111
SYSTEM RESETTING DEVICE

IC108
TRANSCEIVER

IC101
CPU

IC104
DECODER

IC103
DECODER

IC303
NOR

IC106
PARALLEL INTERFACE UNIT

IC107
TRANSCEIVER

IC109
BUFFER

IC105
PARALLEL INTERFACE UNIT

IC110
D/A CONVERTOR

0000H-EFFFH	ROM (PROGRAM)
F000H-F0FFH	GAMMA
F100H-F2FFH	VRC
F300H-F4FFH	PQC
F500H-F503H	BUS CONTROL
F510H-F513H	MOTOR/SENSOR
F520H	LCD
F530H-F531H	R CONTROL
F540H	SENSOR
F780H-F87FH	RESERVE
F880H-FF80H	1kB RAM
FF88H-FFFFH	I/O-REGISTER

CONTROL 1
ADDR/DATA 2
IMAGE DATA 3
TO SY-12 (2/2)

IC108 TRANSCEIVER — IC108 SN74HC245ANS

IC106 PARALLEL INTERFACE UNIT — IC106 μPB71055GB-3B4

IC203 SRAM — IC203 IBT61165AZ35SO-T — 7 SRAM

IC303 SWITCH — IC303 (2/4) SN74HC08ANS; IC303 (1/4) SN74HC08ANS

IC104 DECODER — IC104 SN74HC138ANS

IC301 IC305 SWITCH — IC301 (1/6) SN74HC04ANS; IC305 (1/4) SN74HC02ANS

IC103 DECODER — IC103 SN74HC138ANS

IC302 IC305 SWITCH — IC302 (4/4) SN74HC04ANS; IC305 (3/4) SN74HC02ANS

IC308 FF — IC308 (2/2) SN74HC74ANS

IC301 INV. — IC301 (6/6) SN74HC04ANS

IC109 BUFFER — IC109 SN74HC244ANS

IC303 NOR — IC303 (4/4) SN74HC08ANS

IC311 INV. — IC311 (6/6) SN74HCU04ANS

IC304 IC311 SWITCH — IC304 (1/4) SN74HC32ANS; IC311 (5/6) SN74HCU04ANS

IC101 CPU — IC101 HD6413378F10 (CPU)

IC107 TRANSCEIVER — IC107 SN74HC245ANS

IC306 BUFFER — IC306 (3/4) SN74HC125ANS

IC301 INV. — IC301 (4/6) SN74HC04ANS

IC305 SWITCH — IC305 (2/4) SN74HC02ANS

IC301 SWITCH — IC301 (5/6) SN74HC04ANS

IC110 D/A CONVERTOR — IC110 M62352FP

IC304 SWITCH — IC304 (2/4) SN74HC32ANS; IC304 (3/4) SN74HC32ANS

Q101 DRIVER — Q101 BTC143TK-T146

CN4 24PMECH; CN5 24PMECH; CN6 20PKEY/LED

CONTROL 1
ADDR/DATA 2
IMAGE DATA 3
TO SY-12 (2/2)

CN4 2P MECH

GND	1
CAP_MTR_A	2
CAP_MTR_B	3
CAP_MTR_nA	4
CAP_MTR_nB	5
LOAD_MTR0	6
LOAD_MTR1	7
ARM_MTR0	8
ARM_MTR1	9
HEAD_MTR0	10
HEAD_MTR1	11
TKUP_MTR0	12
TKUP_MTR1	13
SPLY_MTR0	14
SPLY_MTR1	15
FAN_MTR	16
ROOM_THERM	17
LOAD_FG_SENS	18
24V	19
24V	20
12V	21
12V	22
5V	23
GND	24

TO MEC-2 BOARD CN402

CAP_MTR_A CL116
CAP_MTR_B CL117
CAP_MTR_*A CL118
CAP_MTR_*B CL119
LOAD_MTR0 CL120
LOAD_MTR1 CL121
ARM_MTR0 CL122
ARM_MTR1 CL123
HEAD_MTR0 CL124
HEAD_MTR1 CL125
TKUP_MTR0 CL126
PWM0 CL127
CL128
CL129
FAN_MTR
ROOM_THERM
LOAD_FG_SENS CL130
SPLY_MTR0
PWM1
SPLY_MTR1

IC309 (1/6) SN74HC14ANS
IC309 (2/6) SN74HC14ANS
IC309 (3/6) SN74HC14ANS
IC309 (4/6) SN74HC14ANS
IC309 (5/6) SN74HC14ANS
IC309 (6/6) SN74HC14ANS

IC304 (2/4) SN74HC32ANS
IC304 (3/4) SN74HC32ANS

IC304 SWITCH

24V
12V
5V-2

CN5 24P MECH

GND	1
RBN_CST_SENS	2
RBN_C0_SENS	3
HEAD_HOM_SENS	4
HEAD_POS_SENS	5
ARM_HOM_SENS	6
ARM_POS_SENS	7
TKUP_FG_SENS	8
SPLY_FG_SENS	9
PAPER_EG_SENS	10
BC0_SENS	11
SIZE_SENS0	12
SIZE_SENS1	13
SIZE_SENS2	14
OHP_SENS	15
PATH_SENS0	16
PATH_SENS1	17
LED_ON_nOFF	18
RBN_C0_DA	19
BC0_DA	20
OHP_DA	21
SCL	22
SDA	23
GND	24

TO MEC-2 BOARD CN401

ALRM_LED
*LED_EN
RBN_CST_SENS CL131
RBN_C0_SENS CL132
HEAD_HOM_SENS CL133
HEAD_POS_SENS CL134
ARM_HOM_SENS CL135
ARM_POS_SENS CL136
TKUP_FG_SENS CL137
SPLY_FG_SENS CL138
P_EG_SENS CL139
BC0_SENS CL140
SIZE_SENS0 CL141
SIZE_SENS1 CL142
SIZE_SENS2 CL143
OHP_SENS CL144
PATH_SENS0 CL145
PATH_SENS1 CL146
LED_ON_*OFF CL147
RBN_C0_DA
BC0_DA
OHP_DA
SCL
SDA

*AS

5V

CN6 2P KEY/LED

GND	1
5V	2
KEY_EN0	3
KEY_EN1	4
KEY_DAT0	5
KEY_DAT1	6
KEY_DAT2	7
KEY_DAT3	8
RS	9
R_nW	10
nE	11
D0	12
D1	13
D2	14
D3	15
D4	16
D5	17
D6	18
D7	19
ALRM LED	20
BACKLIGHT	21
CONTRAST	22

TO KY

D0
D1
D2 KEY_ENC CL148
D3 KEY_EN1 CL149
D4 KEY_DAT0 CL150
D5 KEY_DAT1 CL151
D6 KEY_DAT2 CL152
D7 KEY_DAT3 CL153
RS CL154
R_*W CL155
CL156
*LED_EN CL157
*AS CL158
CL159
R_*W CL160
CL161
CL162
CL163
CL164
CL165
CL166
CONTRAST

ALRM_LED
Q101 BTC143TK-T146
5V
Q101 DRIVER
R121 10
R122 10
R123 10

PWM1
PWM0

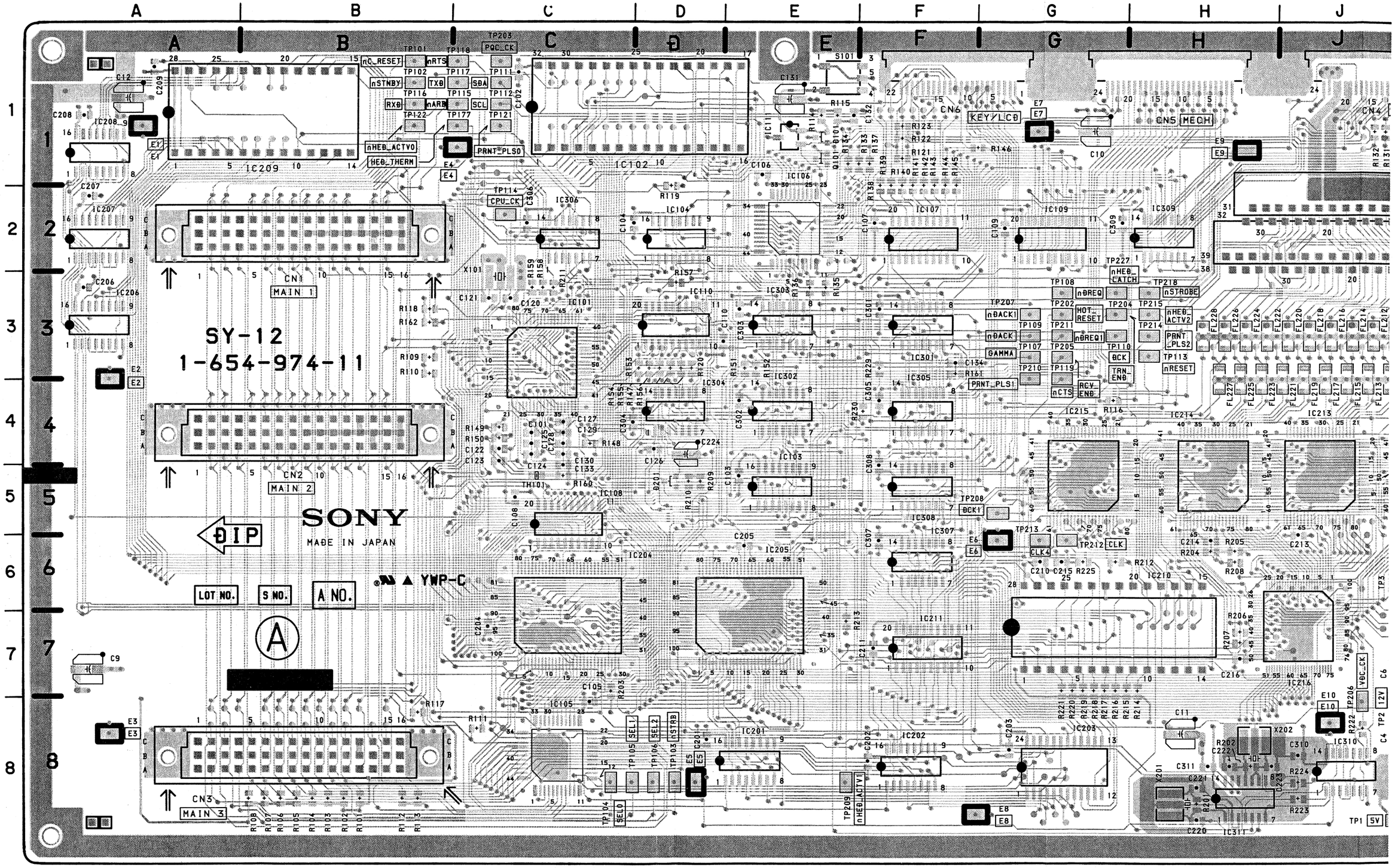
SY-12 (1/2) BOARD

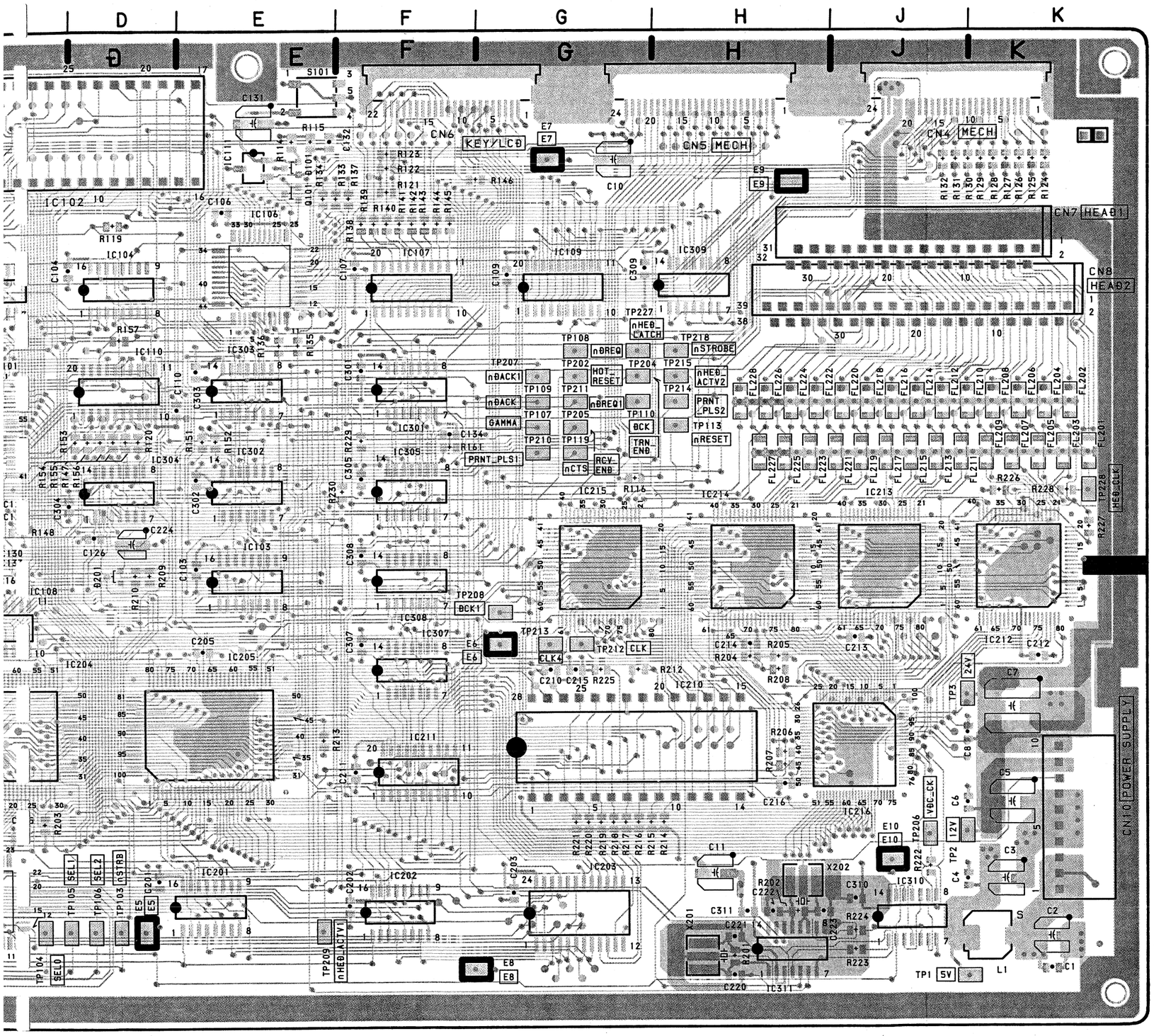
❶
TP114 20MHz 5Vp-p

❺ IF-33, FMY-15 When equiping
TP104 2msec 5Vp-p
TP105 5Vp-p
TP106 0V

❻ During printing (When printing OHP, period is changed)
All is 5Vp-p
TP122 TP209 TP215 During each color printing
TP121 6msec
TP108
TP109
TP110
TP210 TP214 6msec
TP211
TP207
TP208

SY-12 (SYSTEM CONTROL)





SY-12 -COMPONENT SIDE-
1-654-978-11

SY-12 BOARD

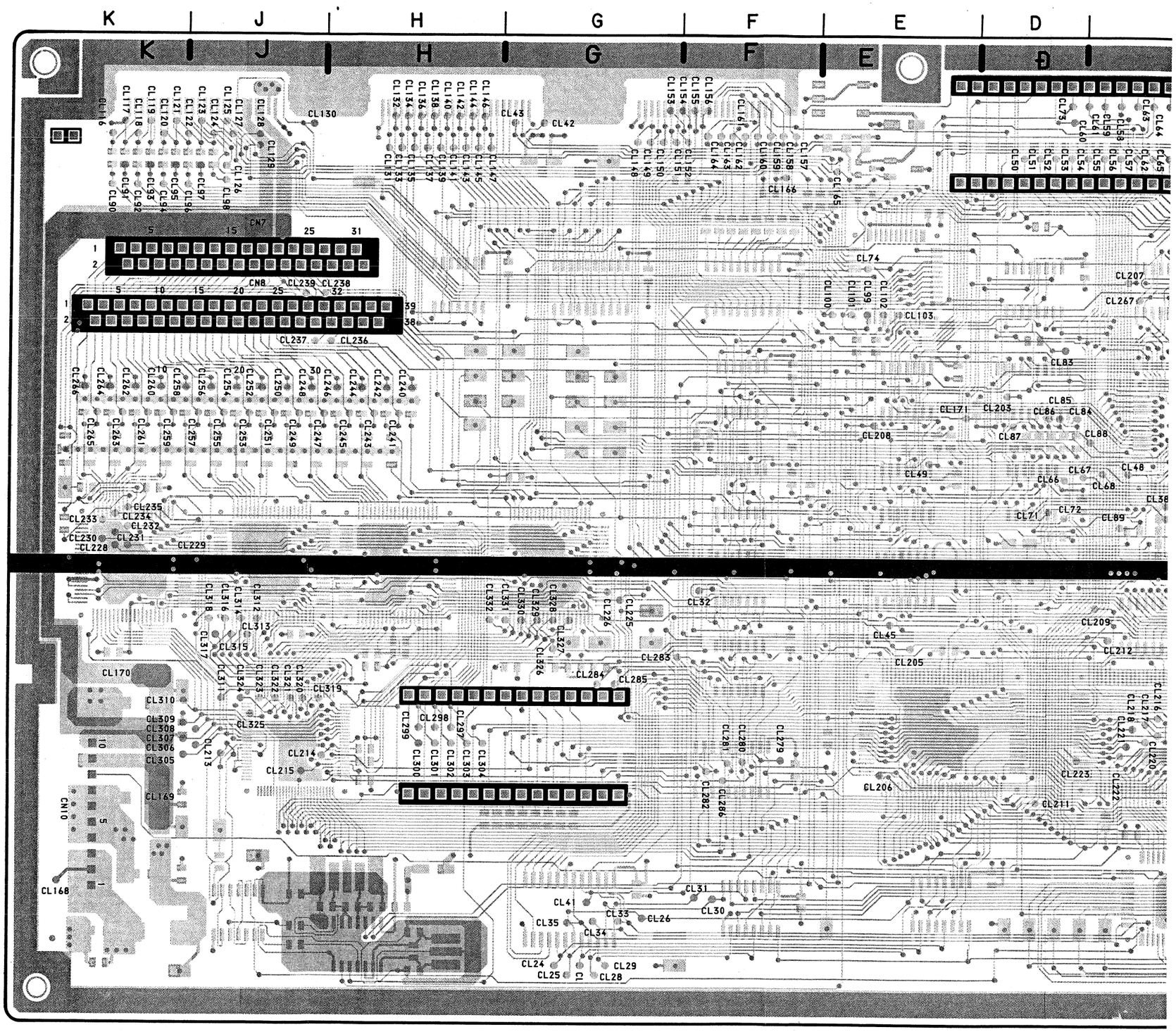
D101	E-1	IC304	D-4
D201	D-5	IC305	F-4
		IC306	C-2
FL201	K-4	IC307	F-5
FL202	K-3	IC308	F-4
FL203	K-4	IC309	H-2
FL204	K-3	IC310	J-8
FL205	K-4	IC311	H-8
FL206	K-3		
FL207	K-4	L1	K-8
FL208	K-3		
FL209	K-4	Q101	E-2
FL210	K-3		
FL211	J-4		
FL212	J-3		
FL213	J-4		
FL214	J-3		
FL215	J-4		
FL216	J-3		
FL217	J-4		
FL218	J-3		
FL219	J-4		
FL220	J-3		
FL221	J-4		

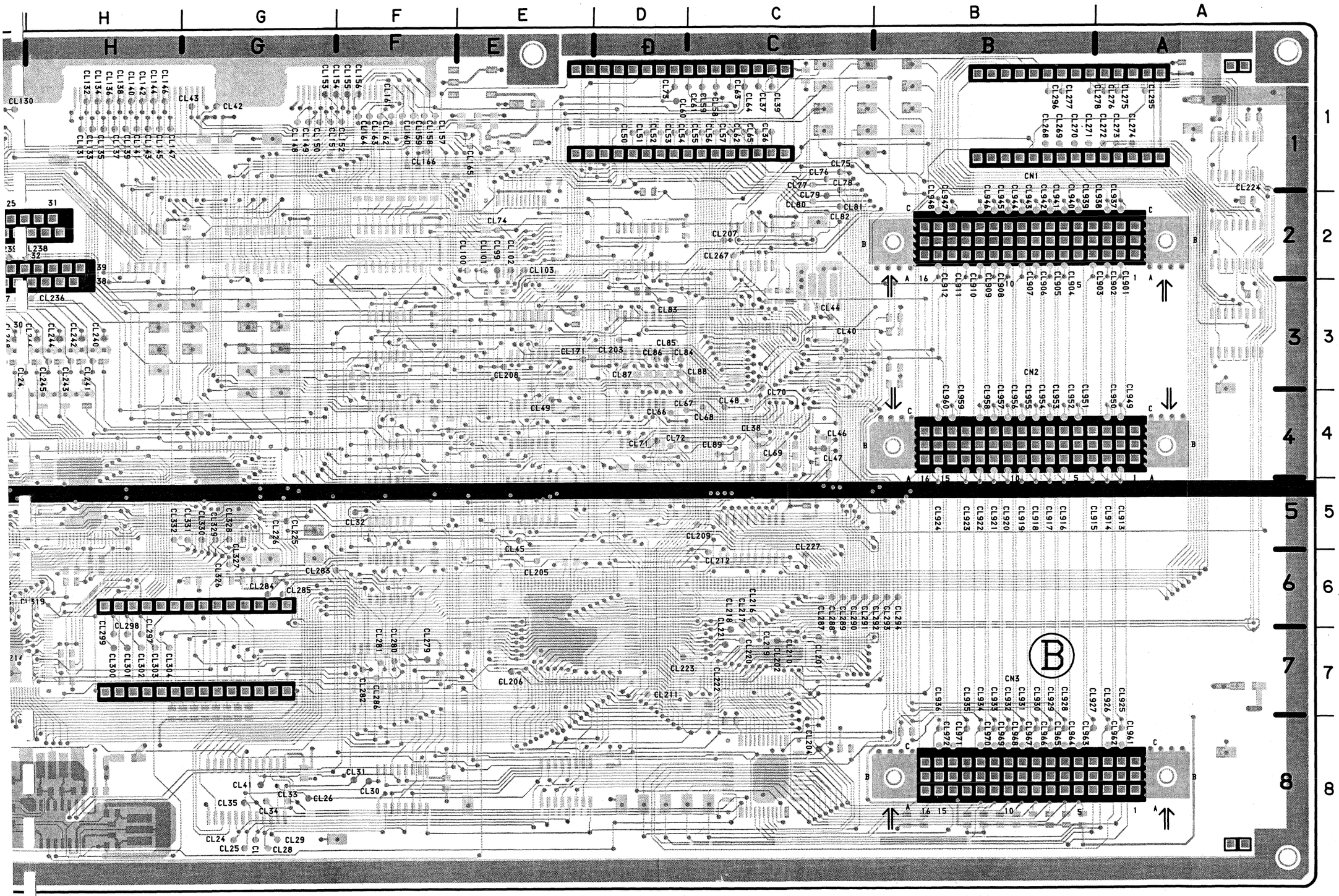
IC101	C-3
IC102	C-1
IC103	E-4
IC104	D-2
IC105	C-8
IC106	E-2
IC107	F-2
IC108	C-5
IC109	G-2
IC110	D-3
IC111	E-1
IC201	E-8
IC202	F-8
IC203	G-8
IC204	C-6
IC206	A-3
IC207	A-2
IC208	A-1
IC210	J-8
IC211	F-7
IC212	K-5
IC213	J-4
IC214	H-5
IC216	J-7
IC301	F-3
IC302	E-4
IC303	E-3

SY-12 BOARD

D101	E-1	IC304	D-4
D201	D-5	IC305	F-4
		IC306	C-2
FL201	K-4	IC307	F-5
FL202	K-3	IC308	F-4
FL203	K-4	IC309	H-2
FL204	K-3	IC310	J-8
FL205	K-4	IC311	H-8
FL206	K-3		
FL207	K-4	L1	K-8
FL208	K-3		
FL209	K-4	Q101	E-2
FL210	K-3		
FL211	J-4		
FL212	J-3		
FL213	J-4		
FL214	J-3		
FL215	J-4		
FL216	J-3		
FL217	J-4		
FL218	J-3		
FL219	J-4		
FL220	J-3		
FL221	J-4		
IC101	C-3		
IC102	C-1		
IC103	E-4		
IC104	D-2		
IC105	C-8		
IC106	E-2		
IC107	F-2		
IC108	C-5		
IC109	G-2		
IC110	D-3		
IC111	E-1		
IC201	E-8		
IC202	F-8		
IC203	G-8		
IC204	C-6		
IC206	A-3		
IC207	A-2		
IC208	A-1		
IC210	J-8		
IC211	F-7		
IC212	K-5		
IC213	J-4		
IC214	H-5		
IC216	J-7		
IC301	F-3		
IC302	E-4		
IC303	E-3		

SY-12 (SYSTEM CONTROL)

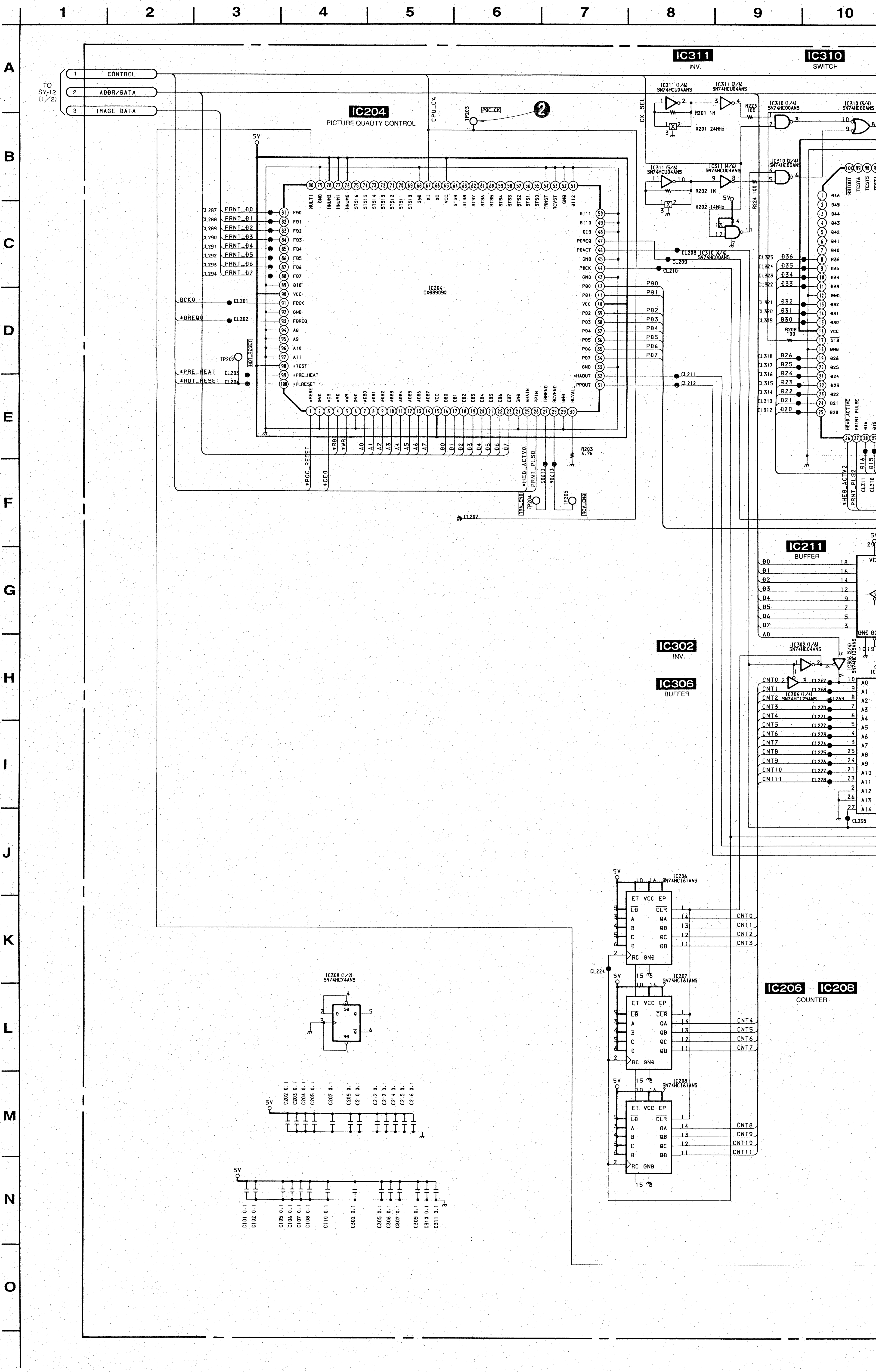




SY-12 -SOLDERING SIDE-
1-654-978-11

SYSTEM CONT. **SY-12**

SYSTEM CONT. **SY-12**


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
TO SY-12 (1/2)
1 CONTROL
2 ADDR/DATA
3 IMAGE DATA
IC204
PICTURE QUALITY CONTROL
IC204 CX88909Q
CPU_CK
TP203
PQC_CK
CK_SEL
IC311
INV.
IC311 (1/6) SN74HCU04ANS
IC311 (2/6) SN74HCU04ANS
IC311 (5/6) SN74HCU04ANS
IC311 (4/6) SN74HCU04ANS
R201 1M
X201 24MHz
R202 1M
X202 14MHz
R223 100
R224 100
IC310
SWITCH
IC310 (1/4) SN74HC00ANS
IC310 (2/4) SN74HC00ANS
IC310 (3/4) SN74HC00ANS
IC310 (4/4) SN74HC00ANS
R208 100
PRNT_D0
PRNT_D1
PRNT_D2
PRNT_D3
PRNT_D4
PRNT_D5
PRNT_D6
PRNT_D7
DCKO
*DREQ0
TP202
HOT_RESET
*PRE_HEAT
*HOT_RESET
*PQC_RESET
*CE0
*RD
*WR
*HED_ACTV0
PRNT_PLS0
TRN_END
TP204
TP205
RCV_END
R203 4.7k
CL207
*HED_ACTV2
PRNT_PLS2
HEAD ACTIVE
PRINT PULSE
IC211
BUFFER
IC302
INV.
IC306
BUFFER
IC302 (1/6) SN74HC04ANS
IC306 (1/4) SN74HC125ANS
IC306 (2/4) SN74HC125ANS
CNT0
CNT1
CNT2
CNT3
CNT4
CNT5
CNT6
CNT7
CNT8
CNT9
CNT10
CNT11
IC206 SN74HC161ANS
IC207 SN74HC161ANS
IC208 SN74HC161ANS
IC206 – IC208
COUNTER
CL224
IC308 (1/2) SN74HC74ANS
C202 0.1
C203 0.1
C204 0.1
C205 0.1
C207 0.1
C209 0.1
C210 0.1
C212 0.1
C213 0.1
C214 0.1
C215 0.1
C216 0.1
C101 0.1
C102 0.1
C105 0.1
C106 0.1
C107 0.1
C108 0.1
C110 0.1
C302 0.1
C305 0.1
C306 0.1
C307 0.1
C309 0.1
C310 0.1
C311 0.1
5V

IC311 INV.

IC310 SWITCH

IC216 VOLTAGE DROP COMPENSATION

IC302 INV.

IC306 BUFFER

IC211 BUFFER

IC210 EPROM

IC302 IC305 SWITCH

IC206 — IC208 COUNTER

IC302 IC304 SWITCH

IC311 INV.

IC310 SWITCH

IC216 VOLTAGE DROP COMPENSATION

IC302 IC304 SWITCH

IC211 BUFFER

IC210 EPROM

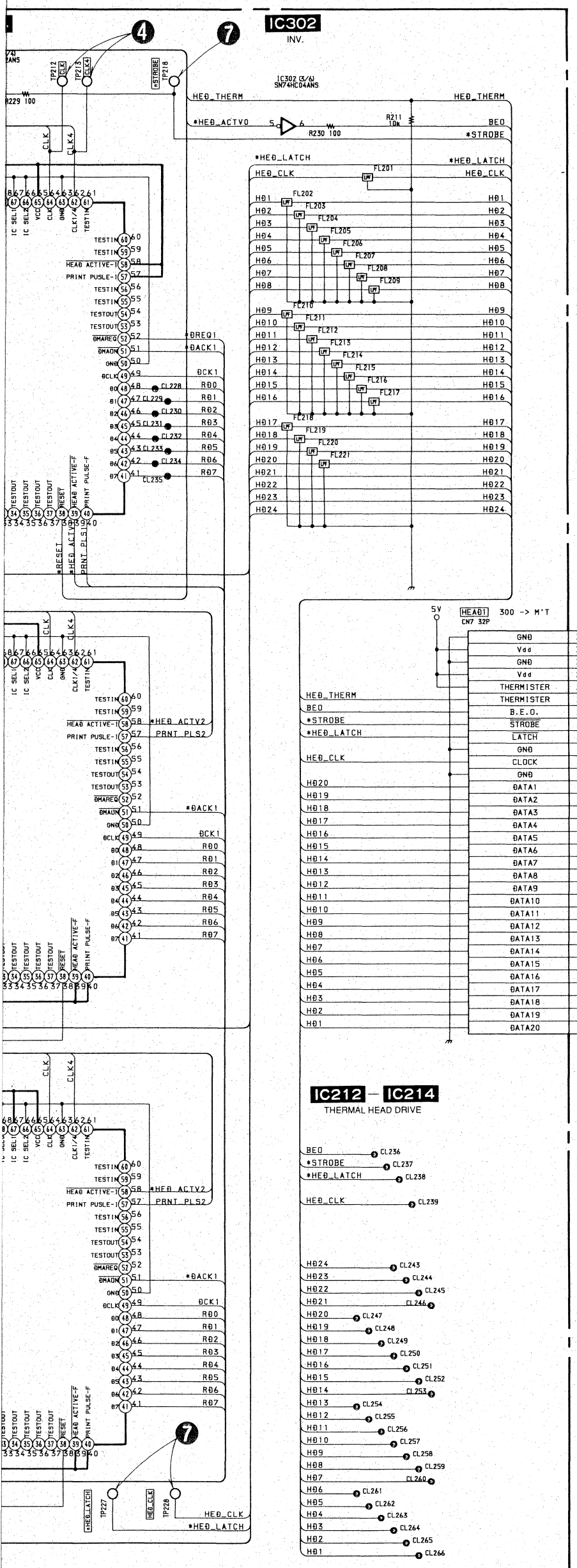
IC302 INV.

IC306 BUFFER

IC302 IC305 SWITCH

IC206 — IC208 COUNTER

17 | 18 | 19 | 20 | 21 | 22



SY-12 (2/2) BOARD

❷
20MHz
TP203
5Vp-p

❸ (When printing OHP, period is changed)
24MHz
TP206
5Vp-p

❹ (When printing OHP, period is changed)
24MHz
TP212
5Vp-p
TP213
5Vp-p

❻ During printing (When printing OHP, period is changed)
All is 5Vp-p
During each color printing
TP122
TP209
TP215
6msec
TP121
TP108
TP109
TP110
6msec
TP210
TP214
TP211
TP207
TP208

❼ During printing (When printing OHP, period is changed)
6MHz
TP228
5Vp-p
23 μsec
TP227
5Vp-p
TP218
5Vp-p

MEC-2 (MECHA INTERFACE) SE-27 (ARM POSITION SENSOR, LOAD SENSOR) SE-28 (HEAD POSITION SENSOR, TAKE-UP SENSOR, SUPPLY
SE-37 (RIBBON CODE SENSOR, CASSETTE SENSOR) SE-38 (PAPER SIZE SENSOR) SU-11 (HEAD MOTOR) SU-12 (LEVER MOTOR) SU-13

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G H I J K L M

SE-34 BOARD

PH108 RPI-5100

Q101 TPS607A-B

D101 TLN107A-B

W702

PATH0_LED	1
PATH0_PHTR	2
OHP_LED	3
OHP_PHTR	4
GND	5

SE-36 BOARD

PH110 RPI-5100

W703

EDGE_LED	1
EDGE_PHTR	2
GND	3

SE-30 BOARD

PH107 GP2540K

W704

BARCODE_LED	1
BARCODE_PHTR	2
GND	3

SE-38 BOARD

TH101 5-10K

PH111 GP1S54

PH112 GP1S54

PH113 GP1S54

W705

THERMISTER_0	1
THERMISTER_1	2
A4L_PHTR	3
A4L_LED	4
A4_PHTR	5
A4_LED	6
A5_PHTR	7
A5_LED	8
GND	9

CN406 (FPC)

1	PATH1_LED
2	PATH1_PHTR
3	SPLY_FG_LED
4	SPLY_FG_PHTR
5	TKUP_FG_LED
6	TKUP_FG_PHTR
7	RBNCODE_LED
8	RBNCODE_PHTR
9	CASET_LED
10	CASET_PHTR
11	HEADHOM_LED
12	HEADHOM_PHTR
13	HEADPOS_LED
14	HEADPOS_PHTR
15	GND

R205 330, R208 330, R211 330, R217 330, R220 330, R223 330

PTOOHP

CN407 (WHT) PATH0_OHP

1	PATH0_LED
2	PATH0_PHTR
3	OHP_LED
4	OHP_PHTR
5	GND

R226 330

EDGE (WHT)

CN408 PAPER EDGE

1	EDGE_LED
2	EDGE_PHTR
3	GND

R232 330

BCODE (BLK)

CN409 BARCODE

1	BARCODE_LED
2	BARCODE_PHTR
3	GND

SIZE (WHT)

CN410 SIZE

1	THERMISTER_0
2	THERMISTER_1
3	A4L_PHTR
4	A4L_LED
5	A4_PHTR
6	A4_LED
7	A5_PHTR
8	A5_LED
9	GND

R242 330, R245 330, R248 330

ARMHOM_LED, ARMHOM_PHTR, ARMPOS_LED, ARMPOS_PHTR, LOAD_FG_LED — R249 330, R252 330, R255 330

LOAD_FG_PHTR

5V

TP203 PATH1 — R206 39k, R207 1k, C204 1000p — PATH_SENS1

TP204 SP_FG — R209 39k, R210 1k, C205 1000p — SPLY_FG_SENS

TP205 TK_FG — R212 39k, R213 1k, C206 1000p — TKUP_FG_SENS

IC202 (1/2) LM358PS — Q203 2SC1623 — RCODE RC_LED TP207 TP206 — R215 27k, R214 33, R216 1k, C209 0.1, C207 0.1, C208 0.1 — RBN_DA, RBN_SENS

TP208 CASET — R218 10k, R219 1k, C210 0.1 — RBN_CST_SENS

Q203 BUFFER — IC202 AMP

TP209 H_HOM — R221 39k, R224 39k, R222 1k, C211 0.1, C212 0.1 — HED_HOM_SENS

TP210 H_POS — HED_POS_SENS

TP211 PATH0 — R227 47k, R228 1k, C213 0.1 — PATH_SENS0

IC203 (2/2) LM358PS — Q204 2SC1623 — OHP_LED TP212 — R229 330, R230 10k, R231 1k, C214 0.1, C215 0.1 — OHP_DA, OHP_SENS

TP213 OHP

Q204 BUFFER — IC203 AMP

TP214 EDGE — R233 47k, R234 1k, C216 0.1 — PAPER_EG_SENS

IC203 (1/2) LM358PS — Q205 2SC1623 — BC_LED TP215 — R235 100, R236 12k, R237 1k, C219 2200p, C217 0.1, C218 0.1 — RBN_CD_DA, RBN_CD_SENS

TP216 BCODE

Q205 BUFFER — IC203 AMP

THERM TP217 — R239 1k, R238 10k, C220 0.1 — ROOM_THERM

TP219 A4 — R243 39k, R240 39k, R244 1k, R241 1k, C222 0.1, C221 0.1 — SIZE_SENS1, SIZE_SENS2

TP218 A4L

TP220 A5 — R246 39k, R247 1k, C223 0.1 — SIZE_SENS0

TP221 A_HOM — R250 39k, R253 39k, R251 1k — ARM_HOM_SENS

TP222 A_POS — R254 1k, C224 0.1, C225 0.1 — ARM_POS_SENS

TP223 LD_FG — R256 39k, C226 1000p, R257 1k — LOAD_FG_SENS

LED_ON_*OFF

Q202 DTC124EK

IC201 ST24C01B1 — E0 VCC, E1 MODE, E2 SCL, VSS SDA

IC201

MECHA I/F MEC-2

MECHA I/F MEC-2

ENSOR, SUPPLY SENSOR, PATH 1 SENSOR) SE-30 (BAR CODE SENSOR) SE-34 (PATH 0 SENSOR, OHP SENSOR) SE-36 (PAPER EDGE SENSOR)
MOTOR) SU-13 (LOAD MOTOR) SU-14 (TAKE-UP MOTOR)

11 12 13 14 15 16 17 18 19 20 21 22

CN401 (FPC) SYS_SENS

RBN_CST_SENS	GND	24
RBN_SENS	RBN_CST_SENS	23
HEØ_HOM_SENS	RBN_SENS	22
HEØ_POS_SENS	HEØ_HOM_SENS	21
ARM_HOM_SENS	HEØ_POS_SENS	20
ARM_POS_SENS	ARM_HOM_SENS	19
TKUP_FG_SENS	ARM_POS_SENS	18
SPLY_FG_SENS	TKUP_FG_SENS	17
PAPER_EG_SENS	SPLY_FG_SENS	16
RBN_CØ_SENS	PAPER_EG_SENS	15
SIZE_SENSØ	RBN_CØ_SENS	14
SIZE_SENS1	SIZE_SENSØ	13
SIZE_SENS2	SIZE_SENS1	12
OHP_SENS	SIZE_SENS2	11
PATH_SENSØ	OHP_SENS	10
PATH_SENS1	PATH_SENSØ	9
LEØ_ON_*OFF	PATH_SENS1	8
RBN_ØA	LEØ_ON_nOFF	7
RBN_CØ_ØA	RBN_ØA	6
OHP_ØA	RBN_CØ_ØA	5
SCL	OHP_ØA	4
SØA	SCL	3
	SØA	2
	GND	1

TO SY-12 BOARD CN5

CN402 (FPC) SYS_MTR

24	GND	CAP_MTR_A
23	CAP_MTR_A	CAP_MTR_B
22	CAP_MTR_B	CAP_MTR_*A
21	CAP_MTR_nA	CAP_MTR_*B
20	CAP_MTR_nB	LOAØ_MTRØ
19	LOAØ_MTRØ	LOAØ_MTR1
18	LOAØ_MTR1	ARM_MTRØ
17	ARM_MTRØ	ARM_MTR1
16	ARM_MTR1	HEØ_MTRØ
15	HEØ_MTRØ	HEØ_MTR1
14	HEØ_MTR1	TKUP_MTRØ
13	TKUP_MTRØ	TKUP_MTR1
12	TKUP_MTR1	SPLY_MTRØ
11	SPLY_MTRØ	SPLY_MTR1
10	SPLY_MTR1	FAN_MTR
9	FAN_MTR	ROOM_THERM
8	ROOM_THERM	LOAØ_FG_SENS
7	LOAØ_FG_SENS	24V
6	24V	24V
5	24V	12V
4	12V	12V
3	12V	5V
2	5V	GNØ
1	GNØ	

TO SY-12 BOARD CN4

IC101 VOLTAGE DETECTOR
IC101 SLA7024M

IC102 MOTOR DRIVER
IC102 M54543L

IC103 MOTOR DRIVER
IC103 M54544AL

IC104 MOTOR DRIVER
IC104 M54544AL

IC105 MOTOR DRIVER
IC105 M54543L

IC106 MOTOR DRIVER
IC106 M54544AL

IC201
IC201 ST24C01B1

IC202 (2/2) LM358PS

M901 CAPSTAN MOTOR

Q101 2SØ999 DRIVER

Q201 2SB798 DRIVER

Q202 DTC124EK MUTE

CAP_MTR CN403 (WHT) CAP_MTR

+V	+V	1
+V	+V	2
A	A	3
B	B	4
$\overline{A}$	$\overline{A}$	5
$\overline{B}$	$\overline{B}$	6

HDRBN CN404 (WHT) HEAØ_RBN

HEAØ_FW	HEAØ_FW	1
HEAØ_BW	HEAØ_BW	2
SPLY_FW	SPLY_FW	3
SPLY_BW	SPLY_BW	4
TKUP_FW	TKUP_FW	5
TKUP_BW	TKUP_BW	6
FAN_FW+	FAN_FW+	7
FAN_FW-	FAN_FW-	8

ARMLB CN405 (WHT) ARM_LOAØ

ARMPOS_LEØ	ARMPOS_LEØ	1
ARMPOS_PHTR	ARMPOS_PHTR	2
LOAØ_FG_LEØ	LOAØ_FG_LEØ	3
LOAØ_FG_PHTR	LOAØ_FG_PHTR	4
ARMHOM_LEØ	ARMHOM_LEØ	5
ARMHOM_PHTR	ARMHOM_PHTR	6
	GNØ	7
	ARM_FW	8
	ARM_BW	9
	LOAØ_FW	10
	LOAØ_BW	11

CN701 CN704 CN702 CN703

LP101

MEC-2 BOARD

(BAR CODE SENSOR) SE-34 (PATH 0 SENSOR, OHP SENSOR) SE-36 (PAPER EDGE SENSOR)
OTOR)

15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26

IC101 VOLTAGE DETECTOR
IC101 SLA7024M
RSA, REFA, REFB, RSB, GNDA, GNDB, TdB, TdA, VSA, VSE, OUTA, OUTA, OUTB, OUTB, INB, INB, INA, INA
5V, 24V
R101 47k, R102 47k, R103 1, R104 2.2k, R105 2.2k, R106 1, R107 330, R108 82, R109 4.7k, R110 4.7k, R111 4.7k, R112 4.7k
C101 1000p, C102 1000p, C103 2200p, C104 2200p, C105 47 35V, C106 47 35V

CAP_MTR CN403 (WHT) CAP_MTR

+V	1
+V	2
A	3
B	4
Ā	5
B̄	6

M901 CAPSTAN MOTOR

TP101 *B, TP102 B, TP103 *A, TP104 A
CAP_MTR_*B, CAP_MTR_B, CAP_MTR_*A, CAP_MTR_A

CAP_MTR_A
CAP_MTR_B
AP_MTR_*A
CAP_MTR_*B
LOAD_MTR0
LOAD_MTR1
ARM_MTR0
ARM_MTR1
HED_MTR0
HED_MTR1
TKUP_MTR0
TKUP_MTR1
SPLY_MTR0
SPLY_MTR1
FAN_MTR
ROOM_THERM
D_FG_SENS

IC102 MOTOR DRIVER
IC102 M54543L
12V, R124 1, R125 1
HED_MTR0, HED_MTR1, R113 1k, R114 1k
VCC1, VCC2, VCC*1, VCC*2, IN1, IN2, GND, O1, O2

IC103 MOTOR DRIVER
IC103 M54544AL
SP0 TP105, SP1 TP106
SPLY_MTR0, SPLY_MTR1, R115 1k, R116 1k
D101 10E-2, D102 10E-2

IC104 MOTOR DRIVER
IC104 M54544AL
TK0 TP107, TK1 TP108
TKUP_MTR0, TKUP_MTR1, R117 1k, R118 1k
D103 10E-2, D104 10E-2

Q101 DRIVER
C107 47 16V, R119 1k, Q101 2SD999
FAN_MTR

IC105 MOTOR DRIVER
IC105 M54543L
R126 1, R127 1
ARM_MTR0, ARM_MTR1, R120 1k, R121 1k

IC106 MOTOR DRIVER
IC106 M54544AL
L00 TP109, L01 TP110
LOAD_MTR0, LOAD_MTR1, R122 1k, R123 1k
D105 10E-2, D106 10E-2

HDRBN CN404 (WHT) HEAD_RBN

HEAD_FW	1
HEAD_BW	2
SPLY_FW	3
SPLY_BW	4
TKUP_FW	5
TKUP_BW	6
FAN_FW+	7
FAN_FW-	8

ARMLD CN405 (WHT) ARM_LOAD

ARMPOS_LED	1
ARMPOS_PHTR	2
LOAD_FG_LED	3
LOAD_FG_PHTR	4
ARMHOM_LED	5
ARMHOM_PHTR	6
GND	7
ARM_FW	8
ARM_BW	9
LOAD_FW	10
LOAD_BW	11

MEC-2 BOARD

SU-11 BOARD
CN701: 1 HEAD_FW, 2 HEAD_BW
M101 RF-370C

SU-14 BOARD
CN704: 1 TKUP_FW, 2 TKUP_BW
M104 MXN-13

M902 SUPPLY MOTOR

SE-28 BOARD
CN707
PH109 GP1S54, PH106 GP1S54, PH105 GP1S54, PH103 GP1S54, PH104 GP1S54
PATH1, PATH1_, SPLY_F, SPLY_FG, TKUP_F, TKUP_FG, RBNCOD, RBNCODE, CASET, CASET_, HEADHO, HEADHO, HEADPO, HEADPOS, GN, CASET, CASET_, RBNCOD, RBNCODE, GN, GN, GN

M903 FAN MOTOR
CN706 (WHT): 1 FAN_FW+, 2 FAN_FW-
CN705 (BLK): FAN_, FAN_

SE-37 BOARD
CN709
PH114 EE-SX1088, D102 GL514A, Q102 PT501A
CASET_, CASET_F, RBNCODE_, RBNCODE, GND, GND, GND

SE-27 BOARD
W701
PH102 GP1S54, PH114 GP1S54, PH101 GP1S54
ARMPOS_, ARMPOS_, LOAD_FG_, LOAD_FG_, ARMHOM_, ARMHOM_, GND

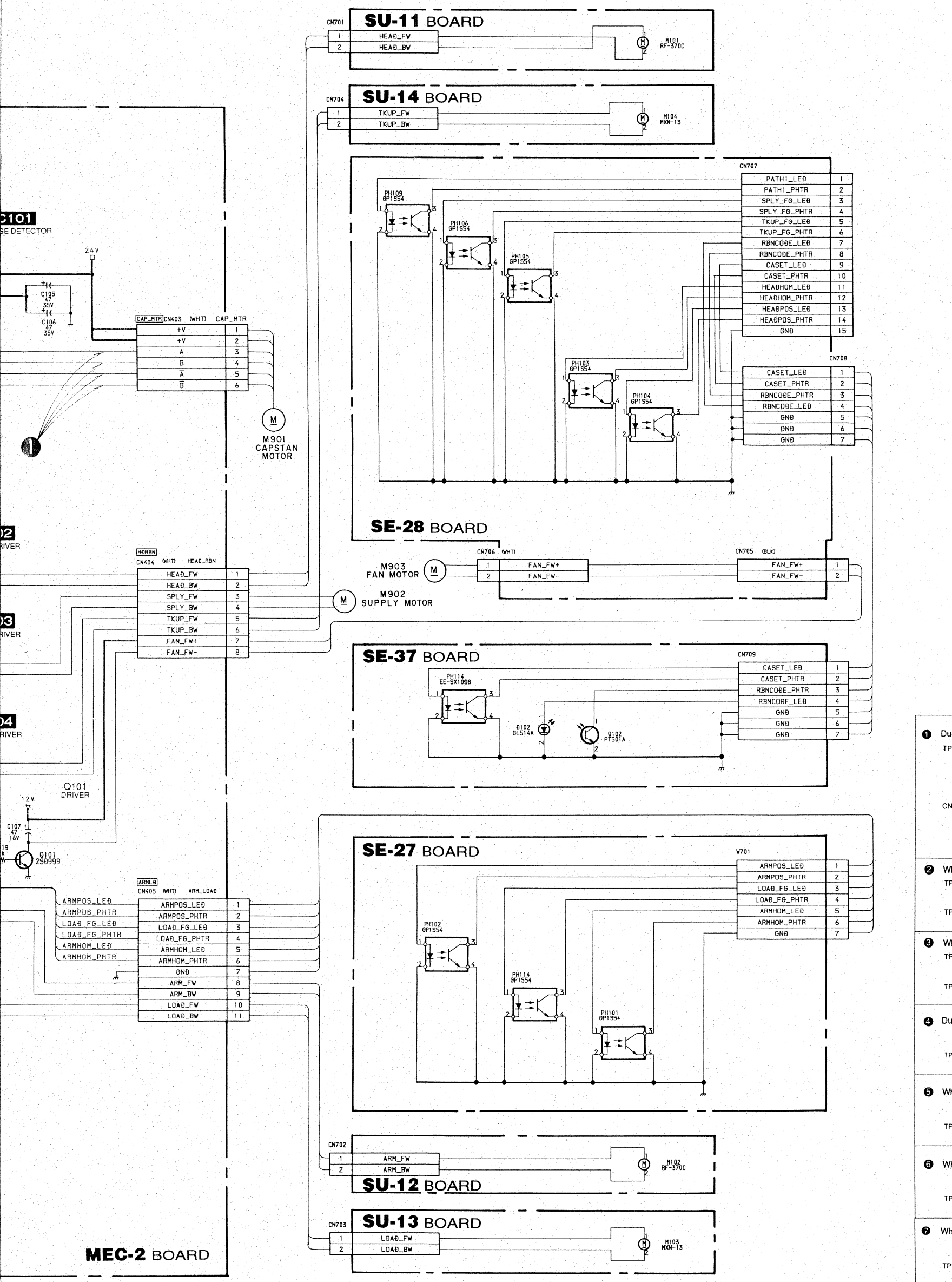
CN702: 1 ARM_FW, 2 ARM_BW
M102 RF-370C
SU-12 BOARD

SU-13 BOARD
CN703: 1 LOAD_FW, 2 LOAD_BW
M103 MXN-13

MECHA I/F MECHA I/F
MEC-2 MEC-2

SENSOR) SE-36 (PAPER EDGE SENSOR)

19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27



❶ During printing (When printing OHP, period is changed).

❷ When supply motor rotates correctly (Manual operation)

❸ When load motor rotates correctly (Manual operation)

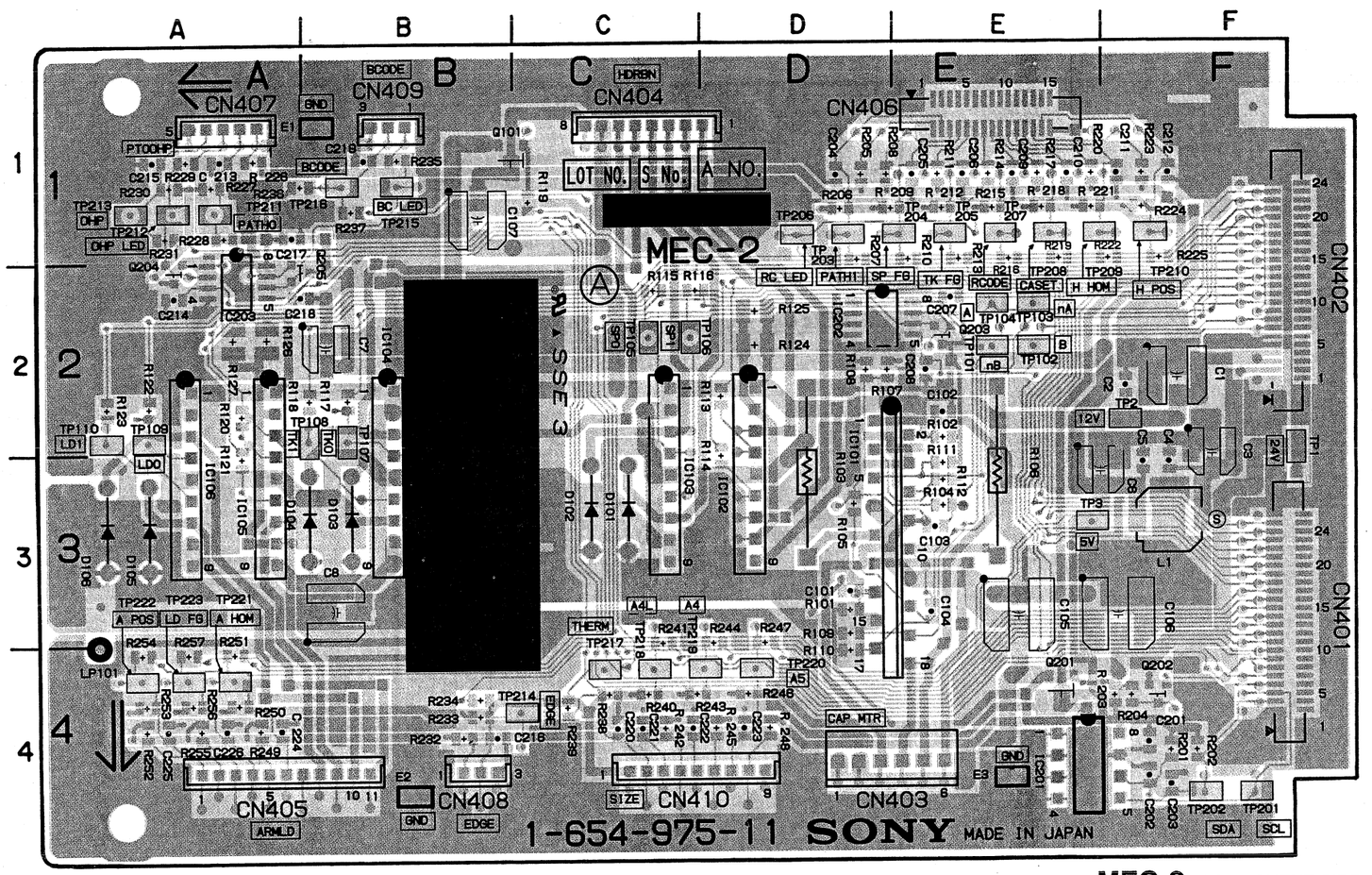
❹ During printing (When printing OHP, period is changed)

❺ When supply motor rotates correctly (Manual operation)

❻ When take up motor rotates correctly (Manual operation)

❼ When load motor rotates correctly (Manual operation)

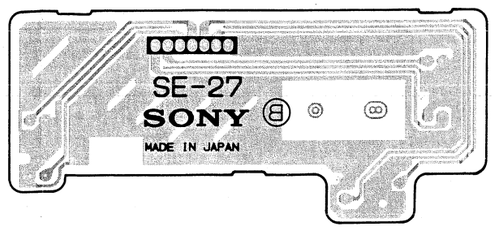
MEC-2 (MECHA INTERFACE) SE-27 (ARM POSITION SENSOR, LOAD SENSOR) SE-28 (HEAD POSITION SENSOR, TAKE-UP SENSOR, SUPPLY SENSOR, PATH 1 SENSOR) SE-30 (BAR CODE SENSOR SE-37 (RIBBON CODE SENSOR, CASSETTE SENSOR) SE-38 (PAPER SIZE SENSOR) SU-11 (HEAD MOTOR) SU-12 (LEVER MOTOR) SU-13 (LOAD MOTOR) SU-14 (TAKE-UP MOTOR)



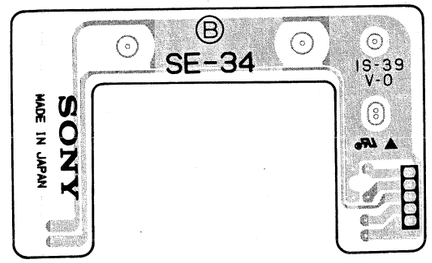
MEC-2 -COMPONENT SIDE-
1-654-975-11

MEC-2 BOARD

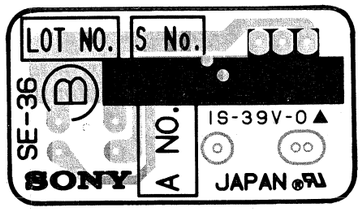
D101	C-3
D102	C-3
D103	B-3
D104	A-3
D105	A-3
D106	A-3
IC101	D-2
IC102	D-3
IC103	C-3
IC104	B-2
IC105	A-3
IC106	A-3
IC201	E-4
IC202	D-2
IC203	A-2
LP101	A-4
L1	F-3
Q101	B-1
Q201	E-4
Q202	F-4
Q203	E-2
Q204	A-1
Q205	B-1



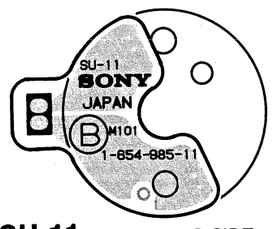
SE-27 -SOLDERING SIDE-
1-654-976-11



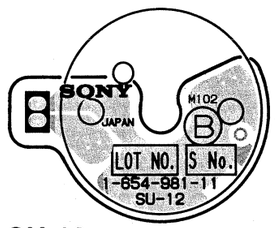
SE-34 -SOLDERING SIDE-
1-654-978-11



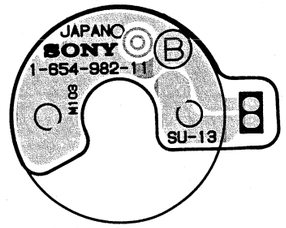
SE-36 -SOLDERING SIDE-
1-654-979-11



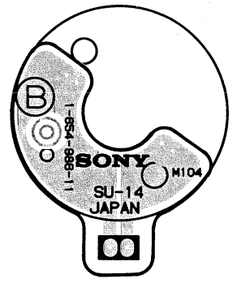
SU-11 -SOLDERING SIDE-
1-654-985-11



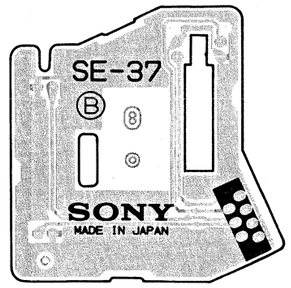
SU-12 -SOLDERING SIDE-
1-654-981-11



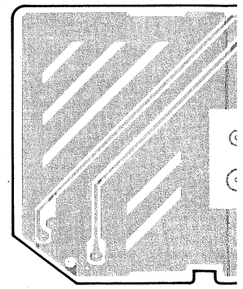
SU-13 -SOLDERING SIDE-
1-654-982-11



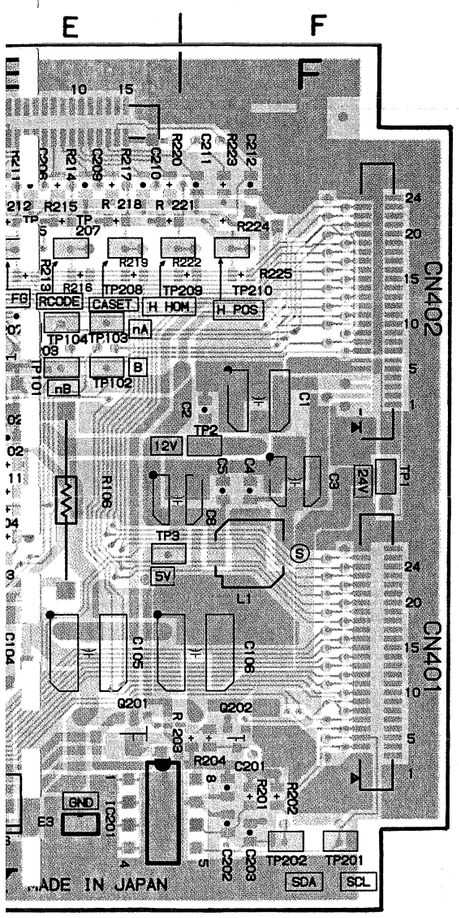
SU-14 -SOLDERING SIDE-
1-654-986-11



SE-37 -SOLDERING SIDE-
1-654-984-11



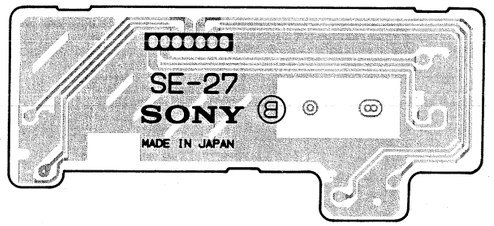
(EAD POSITION SENSOR, TAKE-UP SENSOR, SUPPLY SENSOR, PATH 1 SENSOR) SE-30 (BAR CODE SENSOR) SE-34 (PATH 0 SENSOR, OHP SENSOR) SE-36 (PAPER EDGE SENSOR)
S -11 (HEAD MOTOR) SU-12 (LEVER MOTOR) SU-13 (LOAD MOTOR) SU-14 (TAKE-UP MOTOR)



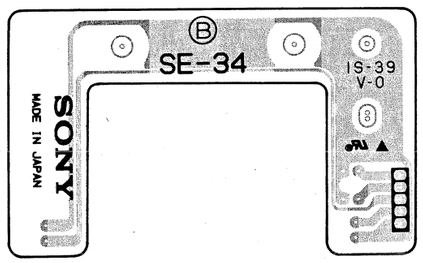
MEC-2 -COMPONENT SIDE-
1-654-975-11

MEC-2 BOARD

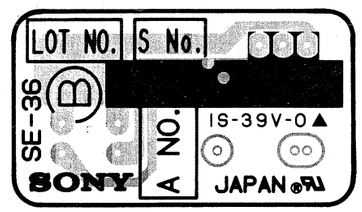
D101	C-3
D102	C-3
D103	B-3
D104	A-3
D105	A-3
D106	A-3
IC101	D-2
IC102	D-3
IC103	C-3
IC104	B-2
IC105	A-3
IC106	A-3
IC201	E-4
IC202	D-2
IC203	A-2
LP101	A-4
L1	F-3
Q101	B-1
Q201	E-4
Q202	F-4
Q203	E-2
Q204	A-1
Q205	B-1



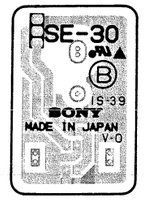
SE-27 -SOLDERING SIDE-
1-654-976-11



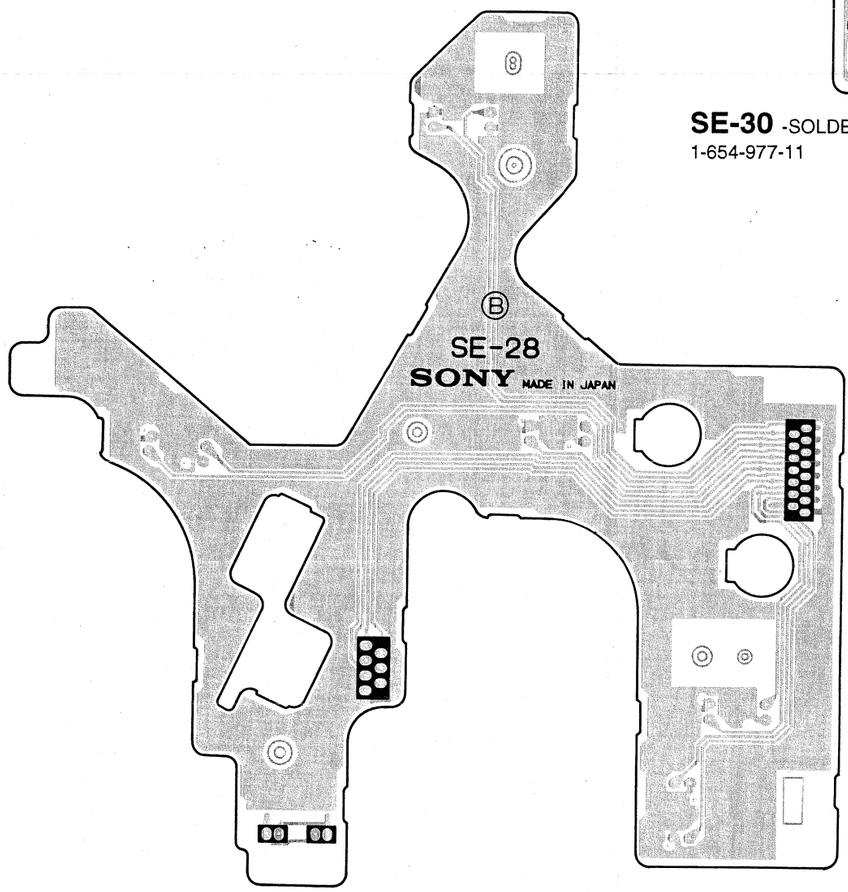
SE-34 -SOLDERING SIDE-
1-654-978-11



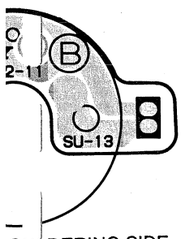
SE-36 -SOLDERING SIDE-
1-654-979-11



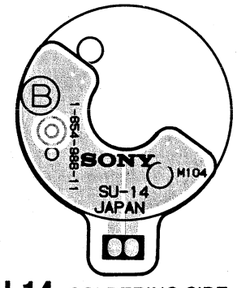
SE-30 -SOLDERING SIDE-
1-654-977-11



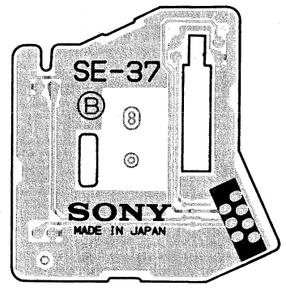
SE-28 -SOLDERING SIDE-
1-654-983-11



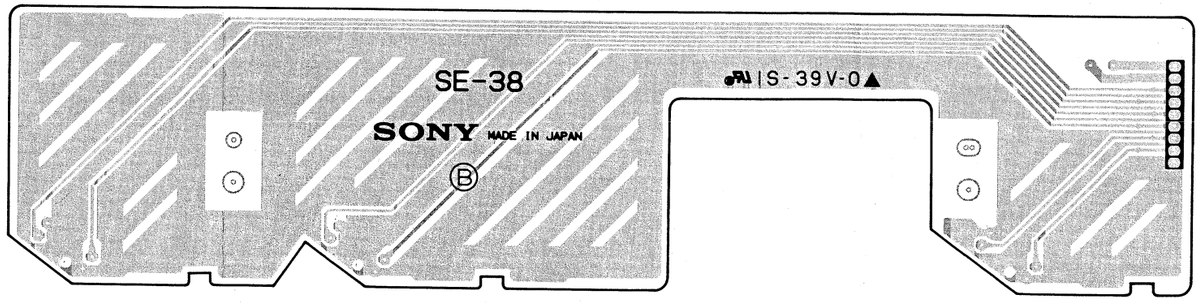
-SOLDERING SIDE-
11



SU-14 -SOLDERING SIDE-
1-654-986-11

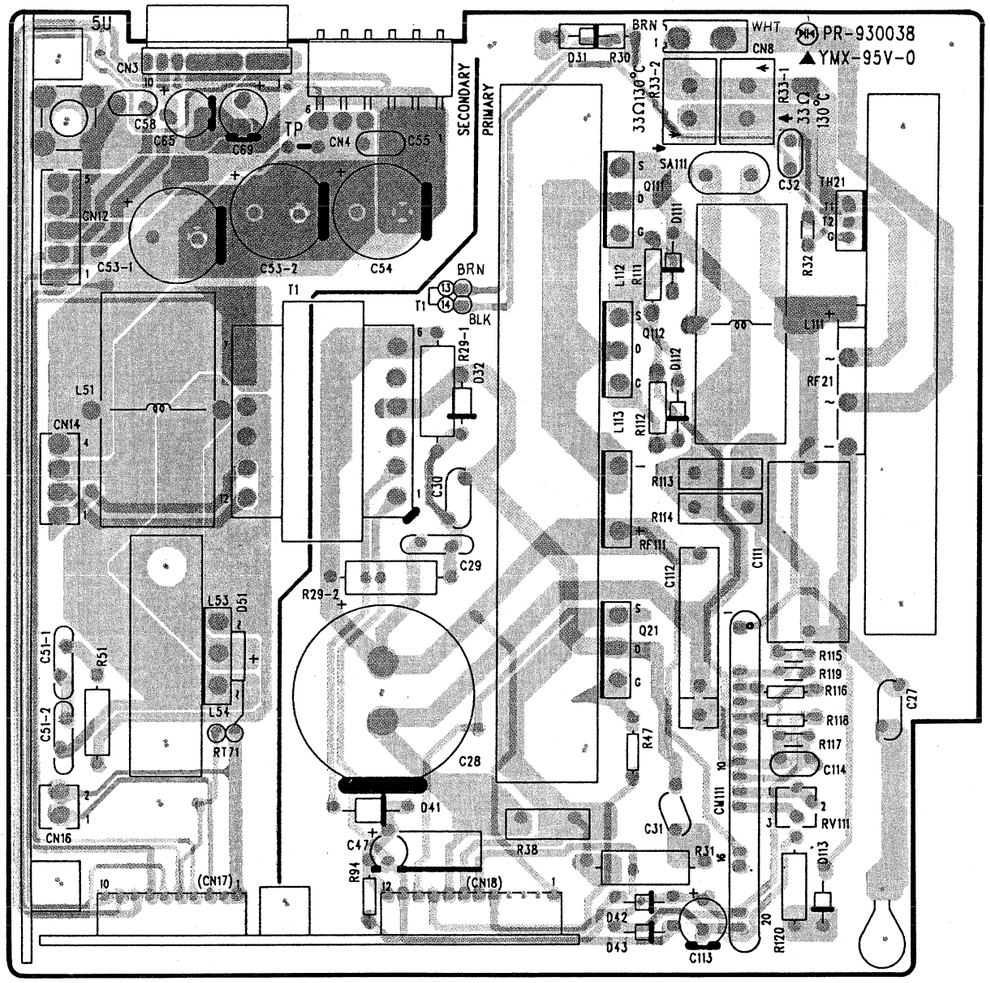


SE-37 -SOLDERING SIDE-
1-654-984-11

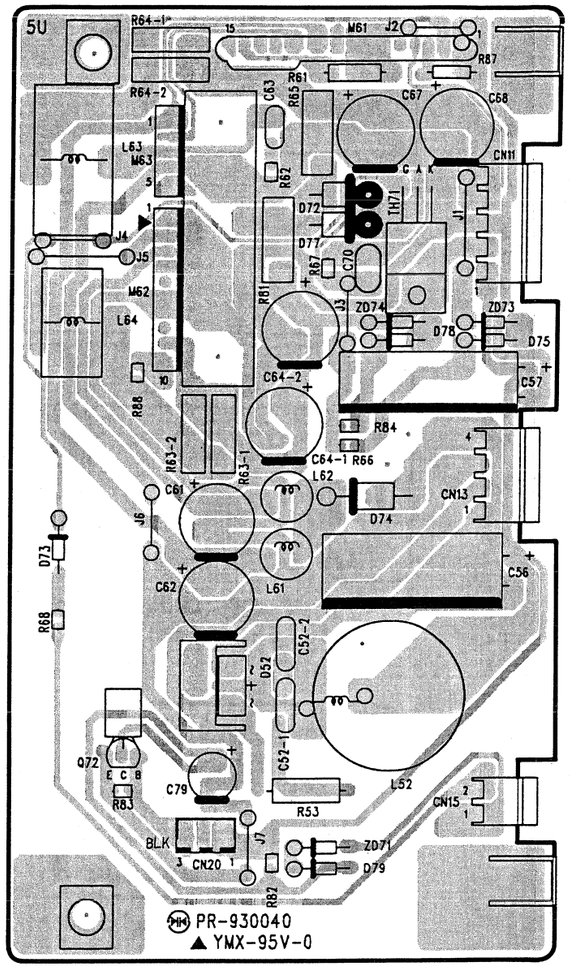


SE-38 -SOLDERING SIDE-
1-654-980-11

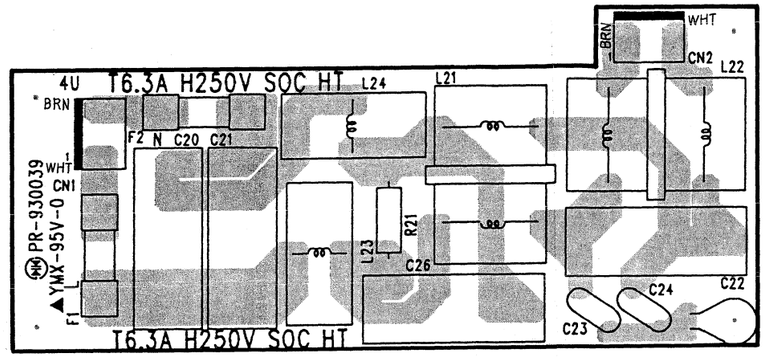
SWITCHING REGULATOR



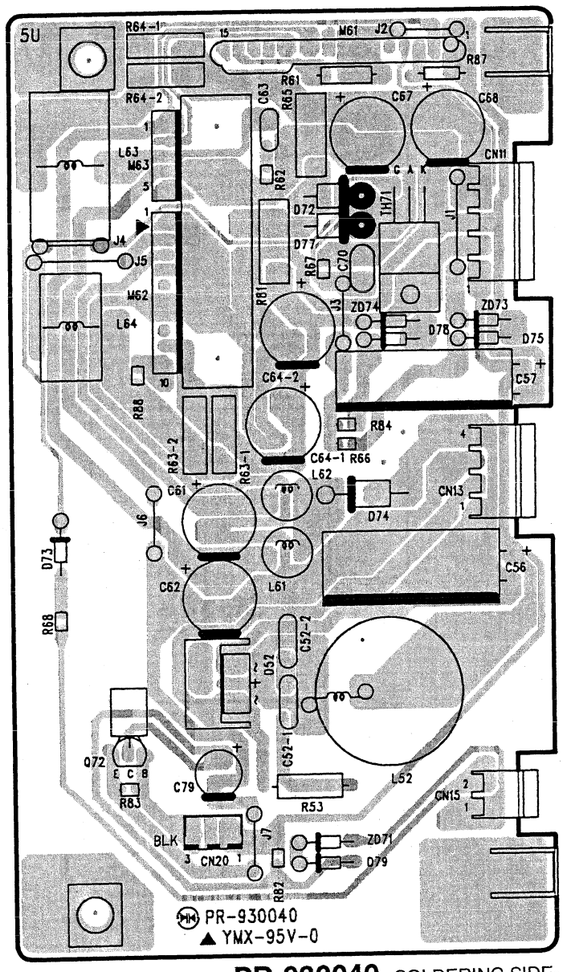
PR-930038 -SOLDERING SIDE-
9-909-749-01



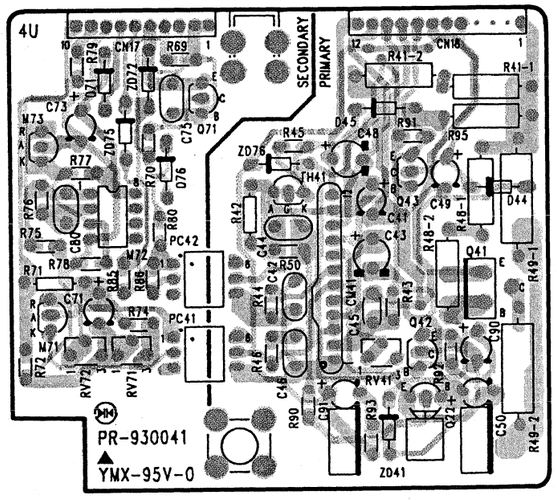
PR-930040 -SOLDERING SIDE-
9-909-783-01



PR-930039 -SOLDERING SIDE-
9-909-752-01

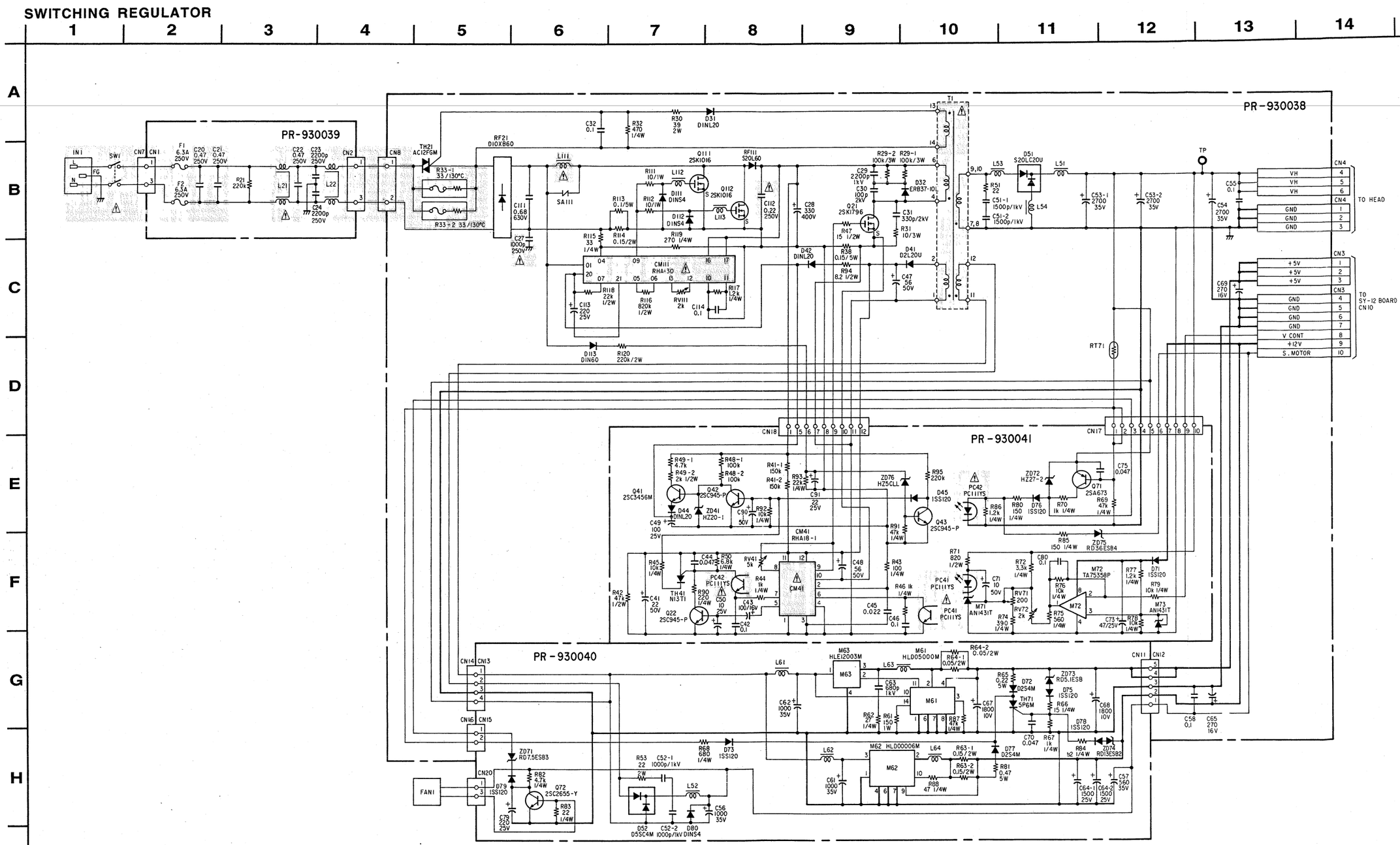


PR-930040 -SOLDERING SIDE-
9-909-783-01



PR-930041 -SOLDERING SIDE-
9-909-807-01

SWITCHING REGULATOR

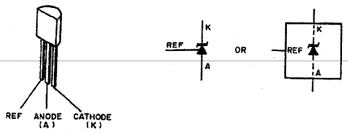


4-3. SEMICONDUCTORS

The chart in this section may sometimes show diodes, transistors, and ICs that are not interchangeable. When replacing a component, be sure to refer to the parts list. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

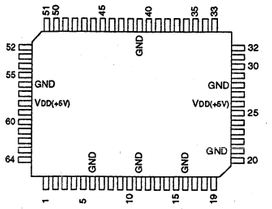
AN1431T (MATSUSHITA)

ADJUSTABLE PRECISION SHUNT REGULATOR



CXD1185CQ (SONY)

SCSI 1 PROTCOL CONTROLLER
—TOP VIEW—



(VDD = +5V)

PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I	A3	14	I/O	DB7	27	—	GND	40	I/O	C0	53	I/O	D6
2	I	A2	15	I/O	DBP	28	I/O	I/O	41	—	GND	54	I/O	D7
3	I	A1	16	—	GND	29	I	RES	42	O	IRQ	55	I/O	DP
4	I	A0	17	I/O	ATN	30	I	CS	43	O	DRQ	56	—	GND
5	I/O	DB0	18	I/O	BSY	31	I	RE	44	I	DACK	57	I	CLK
6	—	GND	19	I/O	ACK	32	I	WE	45	I	WED	58	—	VDD
7	I/O	DB1	20	I/O	RST	33	I/O	C7	46	I	RED	59	O	INIT
8	I/O	DB2	21	—	GND	34	I/O	C6	47	I/O	D0	60	O	TARG
9	I/O	DB3	22	I/O	MSG	35	I/O	C5	48	I/O	D1	61	I/O	P0(DOE)
10	I/O	DB4	23	I/O	SEL	36	I/O	C4	49	I/O	D2	62	I/O	P1(ARB)
11	—	GND	24	I/O	C/D	37	I/O	C3	50	I/O	D3	63	I/O	P2(BSYO)
12	I/O	DB5	25	I/O	REQ	38	I/O	C2	51	I/O	D4	64	I/O	P3(SELO)
13	I/O	DB6	26	—	VDD	39	I/O	C1	52	I/O	D5			

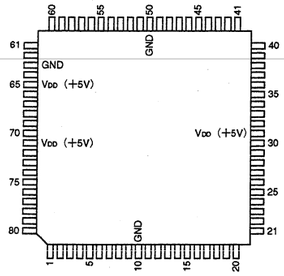
INPUT
A0 - A3 ; ADDRESS
CLK ; CLOCK (5 - 16MHz)
CS ; CHIP SELECT
DACK ; DMA REQUEST ACKNOWLEDGE
RE ; READ
RED ; DATA BUS READ
RES ; RESET
WE ; WRITE
WED ; DATA BUS WRITE

OUTPUT
DRQ ; DMA REQUEST
INIT ; INITIATOR SELECT
IRQ ; INTERRUPT REQUEST
TARG ; TARGET SELECT

INPUT/OUTPUT
ACK ; ACKNOWLEDGE
ATN ; ATTENTION
BSY ; BUSY
C0 - C7 ; CPU BUS
C/D ; CONTROL / DATA
D0 - D7 ; DATA BUS
DB0 - DB7 ; DATA BUS
DBP ; ODD PARITY BIT
DP ; DATA BUS PARITY
I/O ; INPUT / OUTPUT
MSG ; MESSAGE
P0 - P3 ; I/O PORT
REQ ; BUS REQUEST
RST ; BUS RESET
SEL ; BUS SELECT

CXD8862Q (HITACHI)

C-MOS GATE ARRAY
—TOP VIEW—

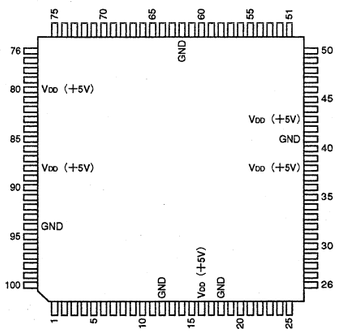


(VDD=+5V)

PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL
1	I	TSTSEL	17	O	TSTCOMPA5	33	O	TDATA9	49	I	DCLK	65	—	VDD
2	I	TSTLOAD	18	O	TSTCOMPA6	34	O	TDATA10	50	—	GND	66	I	ICSEL2
3	O	NHEADACTIVE	19	O	TSTCOMPA7	35	O	TDATA11	51	I	NDMAON	67	I	ICSEL1
4	O	PRINTPULSE	20	O	TDATA8	36	O	TDATA12	52	O	NDMAREQ	68	I	ICSEL0
5	I	PORTENABLE0	21	O	HDDATA1	37	O	TDATA13	53	O	TDATA14	69	O	NCLATCH
6	I	PORTENABLE1	22	O	HDDATA2	38	I	NRESET	54	O	TDATA15	70	O	NUMBER0
7	I	PORTENABLE2	23	O	HDDATA3	39	I	NHEADACTIVEF	55	I	TADD2	71	—	VDD
8	I	PRINTTYPE0	24	O	HDDATA4	40	I	PRINTPULSEF	56	I	TADD3	72	O	NUMBER1
9	I	PRINTTYPE1	25	O	HDDATA5	41	I	DATA7	57	I	PRINTPULSEI	73	O	NUMBER2
10	—	GND	26	O	HDDATA6	42	I	DATA6	58	I	NHEADACTIVEI	74	O	NUMBER3
11	I	TESTSEL	27	O	HDDATA7	43	I	DATA5	59	I	TADD4	75	O	NUMBER4
12	O	TSTCOMPA0	28	O	HDDATA8	44	I	DATA4	60	I	TADD5	76	O	NUMBER5
13	O	TSTCOMPA1	29	O	NHDLATCH	45	I	DATA3	61	I	TADD6	77	O	NUMBER6
14	O	TSTCOMPA2	30	O	HDCLK	46	I	DATA2	62	I	CLK1S4	78	O	NUMBER7
15	O	TSTCOMPA3	31	—	VDD	47	I	DATA1	63	—	GND	79	O	NUMBER8
16	O	TSTCOMPA4	32	O	NHDSTB	48	I	DATA0	64	I	CLK	80	O	NUMBER9

CXD8865R (HITACHI)

C-MOS GATE ARRAY
—TOP VIEW—

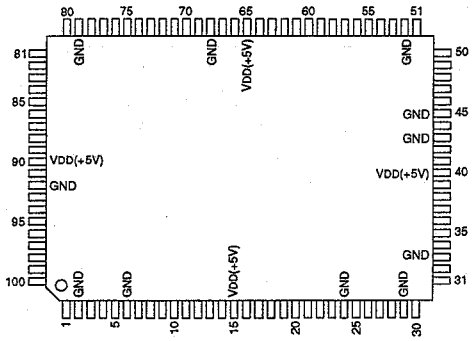


(VDD=+5V)

PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I	D46	21	I	D24	41	—	GND	61	I	A7	81	O	XTALH
2	I	D45	22	I	D23	42	O	CLK2	62	—	GND	82	I	P
3	I	D44	23	I	D22	43	—	VDD	63	I	A6	83	O	TEST0
4	I	D43	24	I	D21	44	O	CLK4	64	I	A5	84	O	TEST1
5	I	D42	25	I	D20	45	I	LINN	65	I	A4	85	I	OSC0
6	I	D41	26	I	HEADACTN	46	I	ONNOFF	66	I	A3	86	I	OSC1
7	I	D40	27	I	PRINTPLS	47	I	S2	67	I	A2	87	I	XCLOCK
8	I	D36	28	I	D16	48	I	S1	68	I	A1	88	—	VDD
9	I	D35	29	I	D15	49	I	S0	69	I	A0	89	O	XOUTM
10	I	D34	30	I	D14	50	I	REN	70	I	RESETN	90	I	XINM
11	I	D33	31	I	D13	51	I	WEN	71	O	OUT7	91	I	RCLKSEL
12	—	GND	32	I	D12	52	I/O	D7	72	O	OUT6	92	O	XOUTH
13	I	D32	33	I	D11	53	I/O	D6	73	O	OUT5	93	I	XINH
14	I	D31	34	I	D10	54	I/O	D5	74	O	OUT4	94	—	GND
15	I	D30	35	I	LATCHN	55	I/O	D4	75	O	OUT3	95	O	TEST2
16	—	VDD	36	O	TEST7	56	I/O	D3	76	O	OUT2	96	O	TEST3
17	O	STBN	37	O	TEST8	57	I/O	D2	77	O	OUT1	97	O	TEST4
18	—	GND	38	—	VDD	58	I/O	D1	78	O	OUT0	98	O	TEST5
19	I	D26	39	O	TEST9	59	I/O	D0	79	O	XTALM	99	O	TEST6
20	I	D25	40	O	CLK	60	I	A8	80	—	VDD	100	O	RSTNOUT

CXD8909Q (RICOH)

C-MOS CONTROLL THE PICTURE QUALITY OF THE VIDEO PRINTERS
—TOP VIEW—



(VDD=+5V)

PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I	$\overline{RES}$	21	I/O	DB5	41	O	PD1	61	O	STS6	81	I	FD0
2	—	GND	22	I/O	DB6	42	O	PD0	62	O	STS7	82	I	FD1
3	I	$\overline{CS}$	23	I/O	DB7	43	—	GND	63	O	STS8	83	I	FD2
4	I	$\overline{RD}$	24	—	GND	44	O	PDCK	64	O	STS9	84	I	FD3
5	I	$\overline{WR}$	25	I	$\overline{HAIN}$	45	—	GND	65	—	VDD	85	I	FD4
6	—	GND	26	I	PPIN	46	O	PDACT	66	I	XO	86	I	FD5
7	I	ADB0	27	O	$\overline{TRNEND}$	47	I	PDREQ	67	I	XI	87	I	FD6
8	I	ADB1	28	O	$\overline{RCVEND}$	48	I	DI9	68	—	GND	88	I	FD7
9	I	ADB2	29	—	GND	49	I	DI10	69	O	STS10	89	I	DI8
10	I	ADB3	30	I	$\overline{RCVALL}$	50	I	DI11	70	O	STS11	90	—	VDD
11	I	ADB4	31	O	PPOUT	51	I	DI12	71	O	STS12	91	I	FDCK
12	I	ADB5	32	O	$\overline{HAOUT}$	52	—	GND	72	O	STS13	92	—	GND
13	I	ADB6	33	—	GND	53	I	$\overline{RCVST}$	73	O	STS14	93	O	FDREQ
14	I	ADB7	34	O	PD7	54	I	$\overline{TRNST}$	74	O	STS15	94	I	A8
15	—	VDD	35	O	PD6	55	O	STS0	75	O	STS16	95	I	A9
16	I/O	DB0	36	O	PD5	56	O	STS1	76	I	HNUM0	96	I	A10
17	I/O	DB1	37	O	PD4	57	O	STS2	77	I	HNUM1	97	I	A11
18	I/O	DB2	38	O	PD3	58	O	STS3	78	I	HNUM2	98	I	$\overline{TEST}$
19	I/O	DB3	39	O	PD2	59	O	STS4	79	—	GND	99	I	PRE-HEAT
20	I/O	DB4	40	—	VDD	60	O	STS5	80	I	NULTI	100	I	$\overline{HRES}$

INPUT

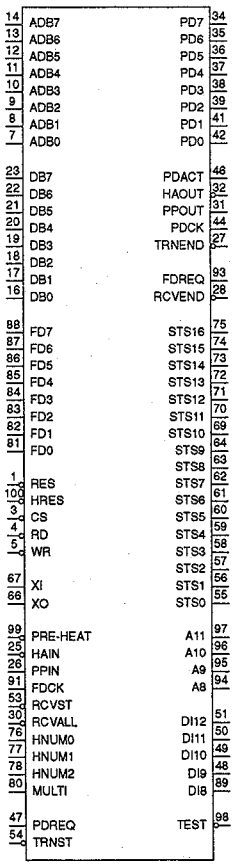
A8-A11	; INNER INPUT
ADB0-ADB7	; ADDRESS
$\overline{CS}$	; CHIP SELECT
DI8-DI12	; INNER INPUT
FD0-FD7	; PRINT DATA
FDCK	; PRINT DATA WRITE CLOCK
$\overline{HAIN}$	; INDIVIDUAL COLOR PRINT STATE (BEFORE DELAY)
HNUM0-HNUM2	; HEAD NUMBER SETTING
$\overline{HRES}$	; HOT RESET
MULTI	; MONO/MULTI SELECT
PDREQ	; PRINT DATA REQUEST
PPIN	; PRINT TIMING PULSE (BEFORE DELAY)
PRE-HEAT	; PRE-HEAT MODE SELECT
$\overline{RCVALL}$	; FRAME DATA 1LINE INPUT END
$\overline{RCVST}$	; FRAME DATA INPUT START(PQC)
$\overline{RD}$	; READ
$\overline{RES}$	; RESET
$\overline{TEST}$	; TEST MODE SELECT
$\overline{TRNST}$	; PRINT DATA OUTPUT START(PQC)
$\overline{WR}$	; WRITE
XO, XI	; CLOCK

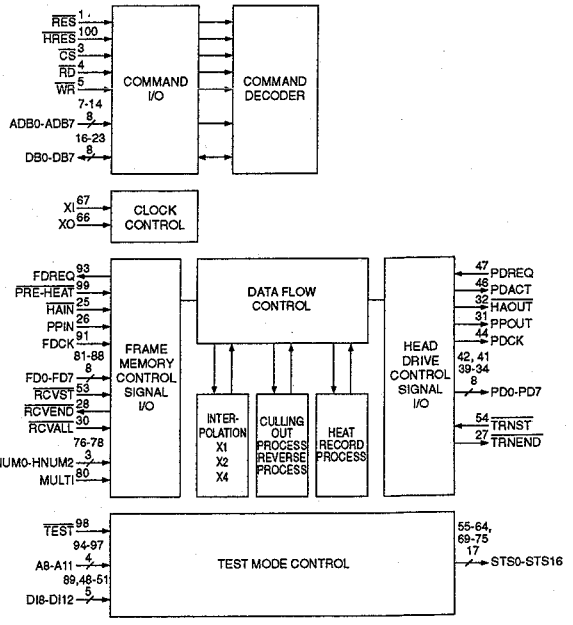
OUTPUT

FDREQ	; PRINT DATA REQUEST
$\overline{HAOUT}$	; INDIVIDUAL COLOR PRINT STATE
PD0-PD7	; PRINT DATA
PDACT	; PRINT DATA TRANSFER ACTIVE
PDCK	; PRINT DATA WRITE CLOCK
PPOUT	; PRINT TIMING PULSE
$\overline{RCVEND}$	; FRAME DATA INPUT END(PQC)
STS0-STS16	; INNER STATUS
$\overline{TRNEND}$	; PRINT DATA OUTPUT END(PQC)

INPUT/OUTPUT

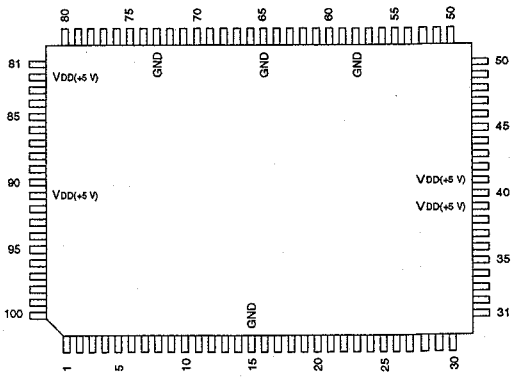
DB0-DB7	; DATA





CXD8869Q (SONY)

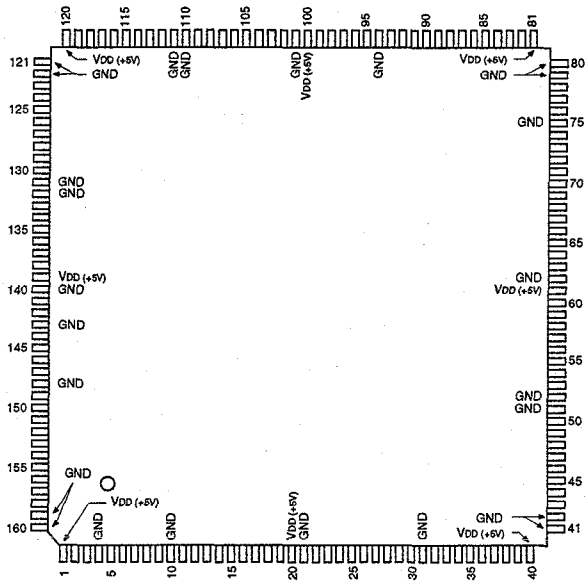
C-MOS CELL BASE IC
—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I/O	B7	21	I/O	R4	41	—	VDD	61	I/O	OUTR6	81	I	REV
2	I/O	B6	22	I/O	R3	42	I	A3	62	I/O	OUTR7	82	—	VDD
3	I/O	B5	23	I/O	R2	43	I	A4	63	I/O	OUTG0	83	O	OUTPS0
4	I/O	B4	24	I/O	R1	44	I	A5	64	I/O	OUTG1	84	O	OUTPS1
5	I/O	B3	25	I/O	R0	45	I	A6	65	—	GND	85	O	OUTPS2
6	I/O	B2	26	I	RDN	46	I	A7	66	I/O	OUTG2	86	O	OUTPS3
7	I/O	B1	27	I	WRN	47	I	A8	67	I/O	OUTG3	87	O	OUTPS4
8	I/O	B0	28	I/O	D7	48	I	A9	68	I/O	OUTG4	88	O	OUTPS5
9	I/O	G7	29	I/O	D6	49	I	A10	69	I/O	OUTG5	89	O	OUTPS6
10	I/O	G6	30	I/O	D5	50	I	CS1N	70	I/O	OUTG6	90	O	OUTPS7
11	I/O	G5	31	I/O	D4	51	I	CS2N	71	I/O	OUTG7	91	—	VDD
12	I/O	G4	32	I/O	D3	52	I	CS3	72	I/O	OUTB0	92	I	CLK2
13	I/O	G3	33	I/O	D2	53	I	CS4	73	—	GND	93	I	TEST
14	I/O	G2	34	I/O	D1	54	I/O	OUTR0	74	I/O	OUTB1	94	O	Y6N
15	—	GND	35	I/O	D0	55	I/O	OUTR1	75	I/O	OUTB2	95	O	Y7N
16	I/O	G1	36	I	A0	56	I/O	OUTR2	76	I/O	OUTB3	96	I	BE0
17	I/O	G0	37	I	A1	57	I/O	OUTR3	77	I/O	OUTB4	97	I	BE1
18	I/O	R7	38	I	A2	58	—	GND	78	I/O	OUTB5	98	I	BE2
19	I/O	R6	39	—	VDD	59	I/O	OUTR4	79	I/O	OUTB6	99	I	CLK1
20	I/O	R5	40	I	RESETN	60	I/O	OUTR5	80	I/O	OUTB7	100	I	OE1N

CXD8911Q (SONY)

C-MOS GATE ARRAY
—TOP VIEW—

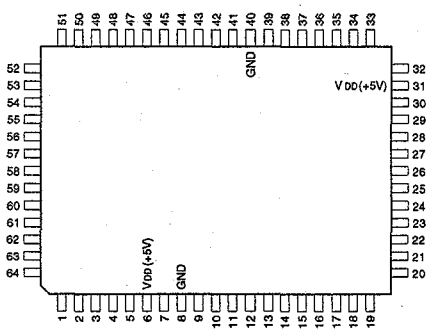


(VDD = +5V)

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	VDD	33	I/O	BD6	65	O	AA9	97	O	RAS0	129	I/O	BD06
2	I/O	EXTAL	34	I/O	BD5	66	O	AA8	98	O	RAS01	130	I/O	BD07
3	I/O	XTAL	35	I/O	BD4	67	O	AA7	99	—	N.C	131	—	GND
4	—	GND	36	I/O	BD3	68	O	AA6	100	—	VDD	132	—	GND
5	I/O	$\overline{CS0}$	37	I/O	BD2	69	O	AA5	101	—	GND	133	O	ROE
6	I/O	CS1	38	I/O	BD1	70	O	AA4	102	I/O	RDD0	134	O	GOE
7	I/O	$\overline{RESET}$	39	I/O	BD0	71	O	AA3	103	I/O	RDD1	135	O	$\overline{BOE}$
8	I/O	$\overline{RD}$	40	—	VDD	72	O	AA2	104	I/O	RDD2	136	O	$\overline{AWE}$
9	I/O	$\overline{WR}$	41	—	GND	73	O	AA1	105	I/O	RDD3	137	O	$\overline{GWE}$
10	—	GND	42	—	GND	74	O	AA0	106	I/O	RDD4	138	O	$\overline{BWE}$
11	I/O	D7	43	I/O	GD7	75	—	GND	107	I/O	RDD5	139	—	VDD
12	I/O	D6	44	I/O	GD6	76	I/O	CAS89	108	I/O	RDD6	140	—	GND
13	I/O	D5	45	I/O	GD5	77	I/O	CAS67	109	I/O	RDD7	141	I	TEST1
14	I/O	D4	46	I/O	GD4	78	I/O	CAS45	110	—	GND	142	I	TEST2
15	I/O	D3	47	I/O	GD3	79	—	GND	111	—	GND	143	—	GND
16	I/O	D2	48	I/O	GD2	80	—	GND	112	I/O	GDD0	144	O	DMACK1
17	I/O	D1	49	I/O	GD1	81	—	VDD	113	I/O	GDD1	145	O	DMACK2
18	I/O	D0	50	I/O	GD0	82	O	CAS23	114	I/O	GDD2	146	O	DMACK3
19	—	N.C	51	—	GND	83	O	CAS01	115	I/O	GDD3	147	O	DMACK4
20	—	VDD	52	—	GND	84	O	CAS9	116	I/O	GDD4	148	—	GND
21	—	GND	53	I/O	RD7	85	O	CAS8	117	I/O	GDD5	149	I	$\overline{E}$
22	I/O	A0	54	I/O	RD6	86	O	CAS7	118	I/O	GDD6	150	I	NEXT
23	I/O	A1	55	I/O	RD5	87	O	CAS6	119	I/O	GDD7	151	O	DINREQ
24	I/O	A2	56	I/O	RD4	88	O	CAS5	120	—	VDD	152	I	DINACK
25	I/O	A3	57	I/O	RD3	89	O	CAS4	121	—	GND	153	I	DOUTREQ
26		R/W	58	I/O	RD2	90	O	CAS3	122	—	GND	154	O	DOUTACK
27	I	$\overline{R}$	59	I/O	RD1	91	O	CAS2	123	I/O	BDD0	155	O	$\overline{BUSY}$
28	I	$\overline{G}$	60	I/O	RD0	92	O	CAS1	124	I/O	BDD1	156	I	$\overline{RSTOP}$
29	I	$\overline{B}$	61	—	VDD	93	O	CAS0	125	I/O	BDD2	157	I	RREQ
30	I	TEST3	62	—	GND	94	—	GND	126	I/O	BDD3	158	O	REFRESH
31	—	GND	63	O	AA11	95	O	RAS2	127	I/O	BDD4	159	—	GND
32	I/O	BD7	64	O	AA10	96	O	RAS1	128	I/O	BDD5	160	—	GND

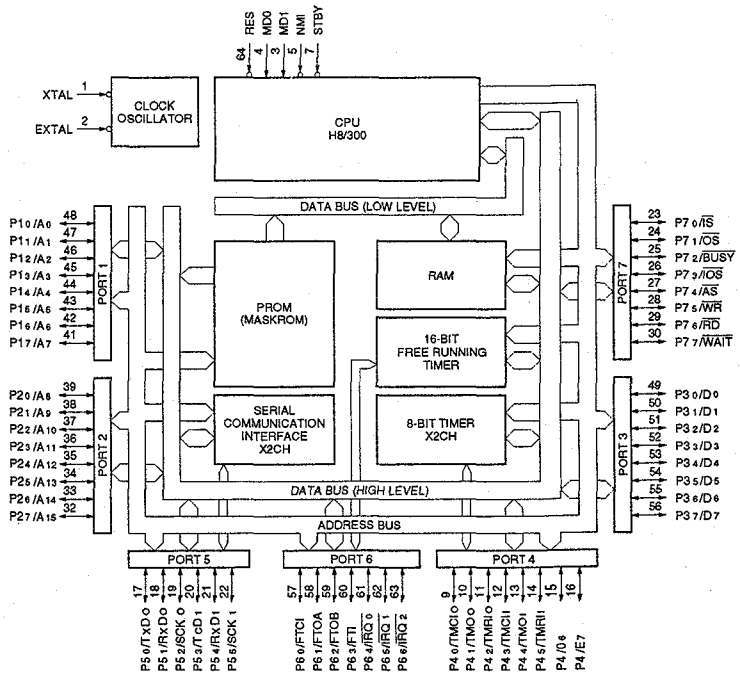
HD6433228A69F (HITACHI) FLAT PACKAGE

C-MOS 8-BIT SINGLE CHIP MICRO COMPUTER
—TOP VIEW—



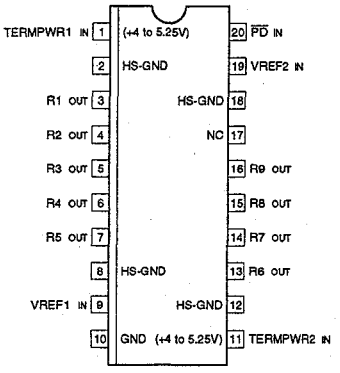
(VDD=+5V)

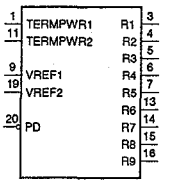
PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I	XTAL	17	I/O	P50/TxD0	33	I/O	P26/A14	49	I/O	P30/D0
2	I	EXTAL	18	I/O	P51/RxD0	34	I/O	P25/A13	50	I/O	P31/D1
3	I	MD1	19	I/O	P52/SCK0	35	I/O	P24/A12	51	I/O	P32/D2
4	I	MD0	20	I/O	P53/TxD1	36	I/O	P23/A11	52	I/O	P33/D3
5	I	$\overline{NMI}$	21	I/O	P54/RxD1	37	I/O	P22/A10	53	I/O	P34/D4
6	—	VDD	22	I/O	P55/SCK1	38	I/O	P21/A9	54	I/O	P35/D5
7	I	STBY	23	I/O	P70/$\overline{IS}$	39	I/O	P20/A8	55	I/O	P36/D6
8	—	GND	24	I/O	P71/$\overline{OS}$	40	—	GND	56	I/O	P37/D7
9	I/O	P40/TMCI0	25	I/O	P72/$\overline{BUSY}$	41	I/O	P17/A7	57	I/O	P80/FTCI
10	I/O	P41/TMO0	26	I/O	P73/$\overline{IOS}$	42	I/O	P16/A6	58	I/O	P81/FTOA
11	I/O	P42/TMRI0	27	I/O	P74/$\overline{AS}$	43	I/O	P15/A5	59	I/O	P82/FTOB
12	I/O	P43/TMCI1	28	I/O	P75/$\overline{WR}$	44	I/O	P14/A4	60	I/O	P83/FTI
13	I/O	P44/TMO1	29	I/O	P76/$\overline{RD}$	45	I/O	P13/A3	61	I/O	P84/$\overline{IRQ0}$
14	I/O	P45/TMRI1	30	I/O	P77/$\overline{WAIT}$	46	I/O	P12/A2	62	I/O	P85/$\overline{IRQ1}$
15	I/O	P46/0	31	—	VDD	47	I/O	P11/A1	63	I/O	P86/$\overline{IRQ2}$
16	I/O	P47/E	32	I/O	P27/A15	48	I/O	P10/A0	64	I	$\overline{RES}$



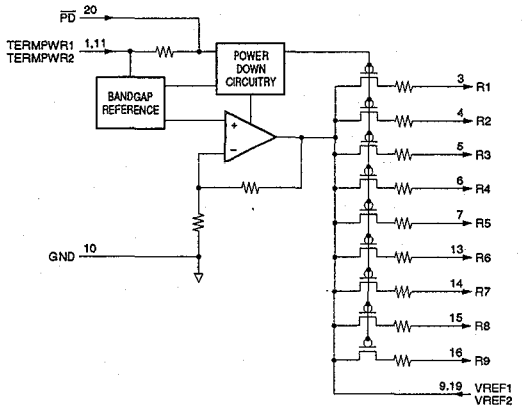
DS21S07AE (DALLAS) FLAT PACKAGE

SCSI TERMINATOR
—TOP VIEW—



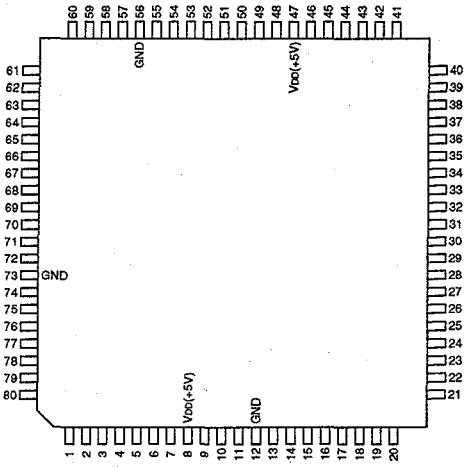


HS-GND	; HEAT SINK GND
$\overline{PD}$	; POWER DOWN INPUT
R1-R9	; SIGNAL TERMINATION OUTPUT
TERMPWR1	; TERMINATION POWER 1 INPUT
TERMPWR2	; TERMINATION POWER 2 INPUT
VREF1	; REFERENCE VOLTAGE 1 INPUT
VREF2	; REFERENCE VOLTAGE 2 INPUT



HD6413378F10 (HITACHI) FLAT PACKAGE

C-MOS 8-BIT 1CHIP CPU (ROM LESS)
—TOP VIEW—



(VDD = +5V)

PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I	$\overline{RES}$	21	I/O	P60/FTCI	41	I/O	P42/TMRI0	61	I/O	P13/A3
2	I	XTAL	22	I/O	P61/FTOA	42	I/O	P43/TMCI1	62	I/O	P12/A2
3	I	EXTAL	23	I/O	P62/FTIA	43	I/O	P44/TMO1	63	I/O	P11/A1
4	I	MD1	24	I/O	P63/FTIB	44	I/O	P45/TMRI1	64	I/O	P10/A0
5	I	MD0	25	I/O	P64/FTIC	45	I/O	P46/PW0	65	I/O	P30/D0
6	I	$\overline{NMI}$	26	I/O	P65/FTID	46	I/O	P47/PW1	66	I/O	P31/D1
7	I	$\overline{STBY}$	27	I/O	P66/FTOB/$\overline{IRQ6}$	47	—	VDD	67	I/O	P32/D2
8	—	VDD	28	I/O	P67/$\overline{IRQ7}$	48	I/O	P27/A15	68	I/O	P33/D3
9	I/O	P52/SCK0	29	I	AVDD	49	I/O	P26/A14	69	I/O	P34/D4
10	I/O	P51/RXD0	30	I	P70/AN0	50	I/O	P25/A13	70	I/O	P35/D5
11	I/O	P50/TXD0	31	I	P71/AN1	51	I/O	P24/A12	71	I/O	P36/D6
12	—	GND	32	I	P72/AN2	52	I/O	P23/A11	72	I/O	P37/D7
13	I/O	P97/$\overline{WAIT}$	33	I	P73/AN3	53	I/O	P22/A10	73	—	GND
14	I/O	P98/ϕ	34	I	P74/AN4	54	I/O	P21/A9	74	I/O	P80
15	I/O	P95/$\overline{AS}$	35	I	P75/AN5	55	I/O	P20/A8	75	I/O	P81
16	I/O	P94/$\overline{WR}$	36	I/O	P76/AN6/DA0	56	—	GND	76	I/O	P82
17	I/O	P93/$\overline{RD}$	37	I/O	P77/AN7/DA1	57	I/O	P17/A7	77	I/O	P83
18	I/O	P92/$\overline{IRQ0}$	38	I	AGND	58	I/O	P16/A6	78	I/O	P84/TXD1/$\overline{IRQ3}$
19	I/O	P91/$\overline{IRQ1}$	39	I/O	P40/TMCI0	59	I/O	P15/A5	79	I/O	P85/RXD1/$\overline{IRQ4}$
20	I/O	P90/$\overline{IRQ2}$/ADTRG	40	I/O	P41/TMO0	60	I/O	P14/A4	80	I/O	P86/SCK1/$\overline{IRQ5}$

INPUT

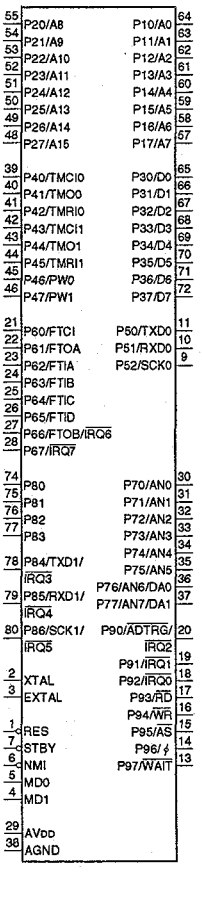
ADTRG	; TRIGGER FOR A/D CONVERTER
AGND	; GND FOR A/D CONVERTER
AN0-AN7	; ANALOG
AVDD	; REFERENCE VOLTAGE FOR A/D CONVERTER
EXTAL	; CRYSTAL OSCILLATOR & EXTERNAL CLOCK (ϕ CLOCK x 2)
FTCI	; FRT COUNTER CLOCK
FTIA-FTID	; FRT INPUT CAPTURE
IRQ0-IRQ7	; INTERRUPT REQUEST
MD0,MD1	; MODE SETTING
$\overline{NMI}$	; NON-MASKABLE INTERRUPT
P70-P77	; PORT 7
$\overline{RES}$	; RESET
RXD0,RXD1	; RECEIVE DATA
SCK0,SCK1	; SERIAL CLOCK
$\overline{STBY}$	; STANDBY
TMCI0,TMCI1	; 8-BIT TIMER CLOCK
TMRI0,TMRI1	; 8-BIT TIMER COUNTER RESET
$\overline{WAIT}$	; WAIT
XTAL	; CRYSTAL OSCILLATOR (ϕ CLOCK x 2)

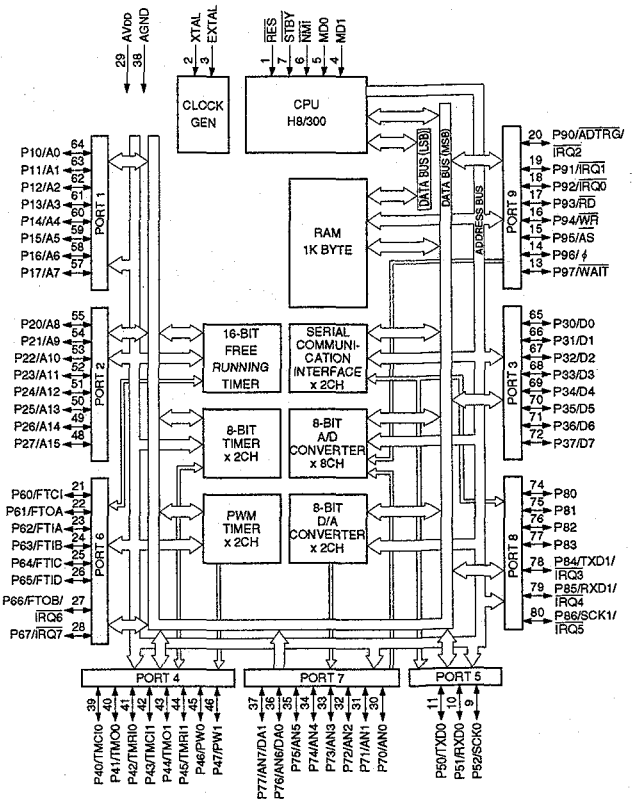
OUTPUT

ϕ	; SYSTEM CLOCK
A0-A15	; ADDRESS BUS
$\overline{AS}$	; ADDRESS STROBE
DA0,DA1	; D/A CONVERTE DATA
FTOA,FTOB	; FRT OUTPUT COMPEA
PW0,PW1	; PWM TIME
$\overline{RD}$	; READ
TMO0,TMO1	; 8-BIT TIMER
TXD0,TXD1	; TRANSCEIVE DATA
$\overline{WR}$	; WRITE

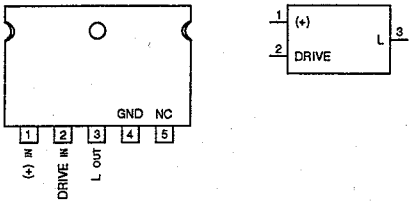
INPUT/OUTPUT

D0-D7	; DATA BUS
P10-P17	; PORT 1
P20-P27	; PORT 2
P30-P37	; PORT 3
P40-P47	; PORT 4
P50-P52	; PORT 5
P60-P67	; PORT 6
P80-P86	; PORT 8
P90-P97	; PORT 9

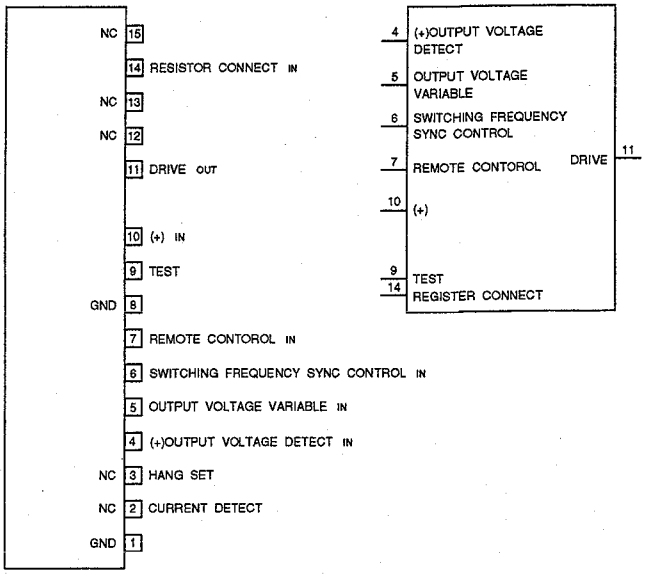




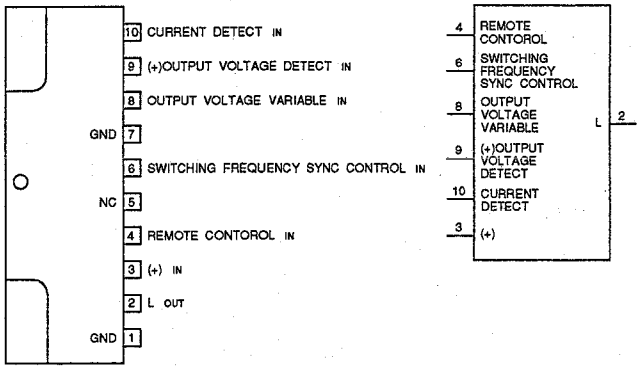
HLD00006M (SINDENGEN)
DC/DC CONVERTER (MAIN MODULE)
—SIDE VIEW—



HLD05000M (SINDENGEN)
DC/DC CONVERTER (CONTROL MODULE)
—SIDE VIEW—

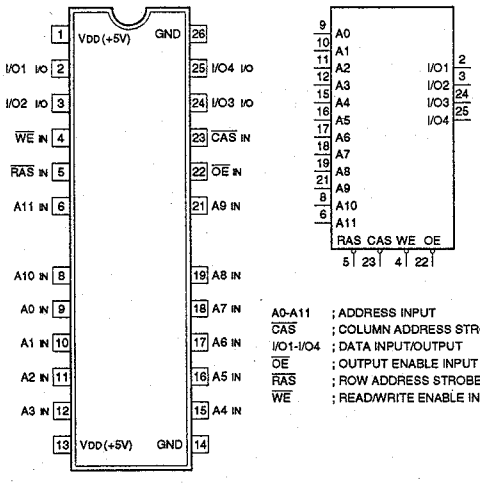


HLE12003M (SINDENGEN)
DC/DC CONVERTER
—SIDE VIEW—

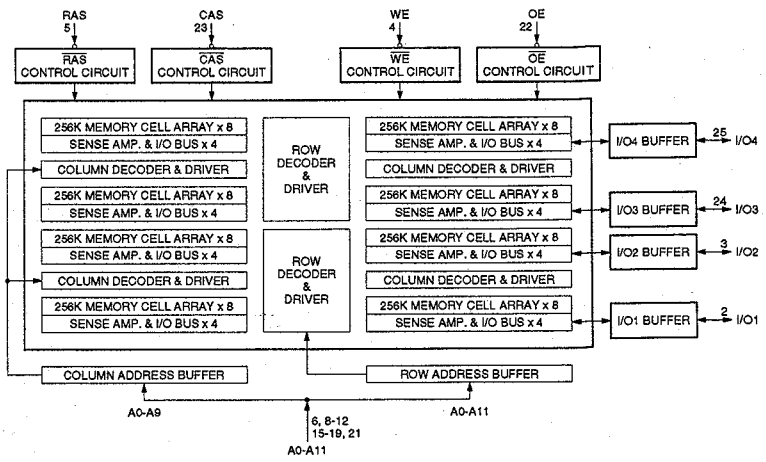


HM5116400AS7GS (HITACHI)

C-MOS 16M(4,194,304 x 4)-BITDYNAMIC RAM
—TOP VIEW—

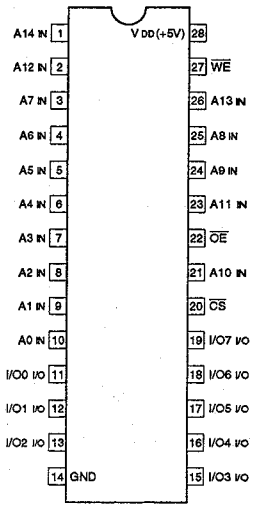


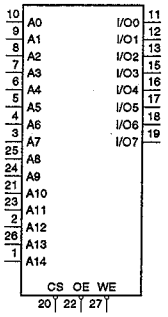
A0-A11 ; ADDRESS INPUT
$\overline{CAS}$; COLUMN ADDRESS STROBE INPUT
I/O1-I/O4 ; DATA INPUT/OUTPUT
$\overline{OE}$; OUTPUT ENABLE INPUT
$\overline{RAS}$; ROW ADDRESS STROBE INPUT
$\overline{WE}$; READ/WRITE ENABLE INPUT



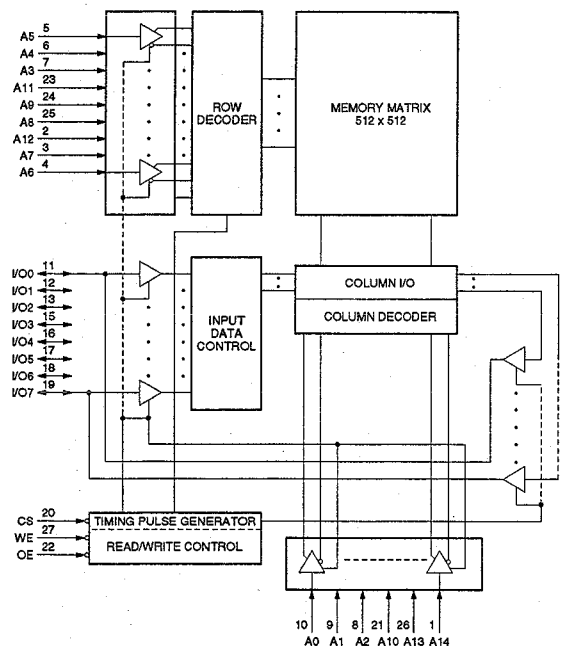
HMT2256ALF (HITACHI) FLAT PACKAGE

C-MOS 32K x 8-BIT HIGH SPEED STATIC RAM
—TOP VIEW—



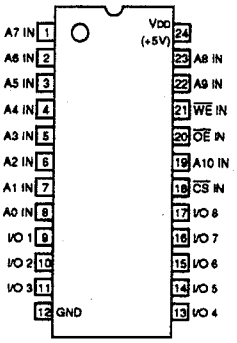


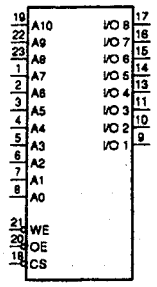
A0-A14 ; ADDRESS INPUT
$\overline{CS}$; CHIP ENABLE INPUT
I/O1-I/O7 ; DATA INPUT/OUTPUT
$\overline{OE}$; OUTPUT ENABLE INPUT
$\overline{WE}$; WRITE ENABLE INPUT



IDT6116SA25S0 (IDT) FLAT PACKAGE

C-MOS 18K (2K x 8)-BIT STATIC RAM
—TOP VIEW—

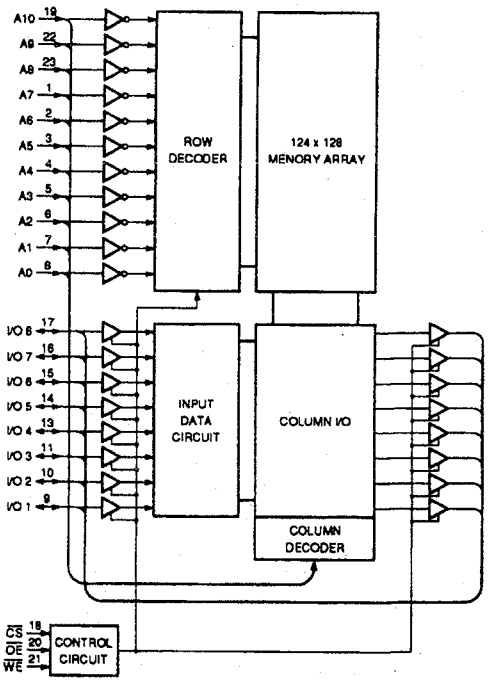




A0-A10 ; ADDRESS INPUTS
$\overline{CS}$; CHIP SELECT INPUT
I/O1-I/O8 ; DATA INPUTS/OUTPUTS
$\overline{OE}$; OUTPUT ENABLE INPUT
$\overline{WE}$; WRITE ENABLE INPUT

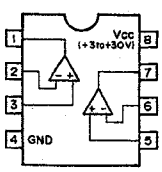
MODE	$\overline{CS}$	$\overline{OE}$	$\overline{WE}$	I/O
STANDBY	1	X	X	HI-Z
READ	0	0	1	DATA OUT
READ	0	1	1	HI-Z
WRITE	0	X	0	DATA IN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE



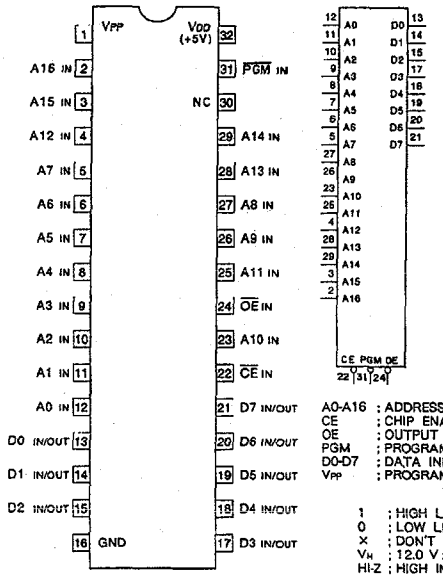
LM358PS (MITSUBISHI)

DUAL OPERATIONAL AMPLIFIERS
—TOP VIEW—



M27C1001-12F1 (SGS)
M27C1001-15F1 (SGS)

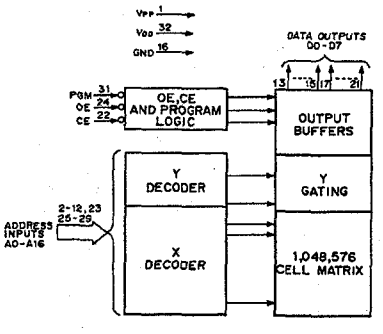
C-MOS 1M (128K x 8)-BIT UV EPROM
—TOP VIEW—



A0-A16 ; ADDRESS INPUTS
CE ; CHIP ENABLE INPUT
OE ; OUTPUT ENABLE
PGM ; PROGRAM INPUT
D0-D7 ; DATA INPUTS/OUTPUTS
VPP ; PROGRAMMING VOLTAGE INPUT

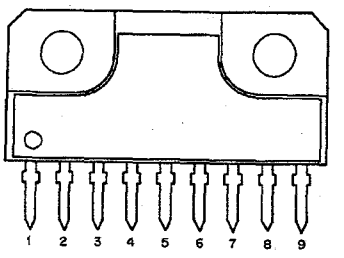
1 ; HIGH LEVEL
0 ; LOW LEVEL
× ; DON'T CARE
VH ; 12.0 V ± 0.5 V
HI-Z ; HIGH IMPEDANCE

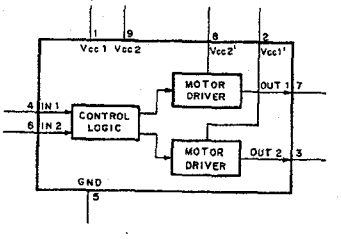
MODE	CE	OE	A9	PGM	VPP	OUTPUT
READ	0	0	×	×	×	DOUT
OUTPUT DISABLE	0	1	×	×	×	HI-Z
STANDBY	1	×	×	×	×	HI-Z
PROGRAM	0	1	×	0	VPP	DIN
PROGRAM VERIFY	0	0	×	1	VPP	DOUT
PROGRAM INHIBIT	1	×	×	×	VPP	HI-Z
ELECTRONIC SIGNATURE	0	0	VH	1	VDD	CODE



M54543L (MITSUBISHI)

BI-DIRECTIONAL MOTOR DRIVER
—SIDE VIEW—



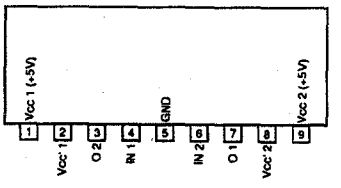


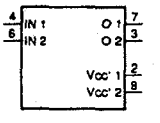
IN		OUT		MODE
1	2	1	2	
0	0	Z	Z	NO OPERATION
1	0	1	0	ROTATION
0	1	0	1	REVERSE ROTATION
1	1	0	0	BRAKE

0 : LOW LEVEL
1 : HIGH LEVEL
Z : HIGH IMPEDANCE

M54544AL (MITSUBISHI)

BI-DIRECTIONAL MOTOR DRIVER
WITH THERMAL SHUT DOWN FUNCTION
—PRINTED SIDE VIEW—

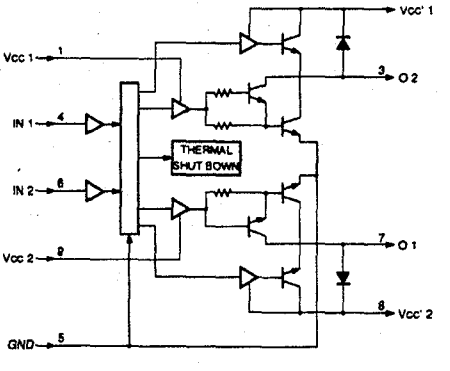




Vcc' 1, Vcc' 2 ; POWER SOURCE OUTPUT

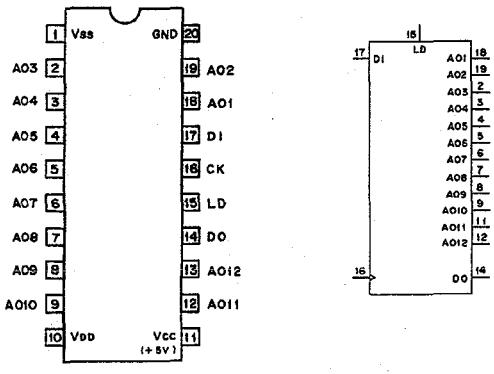
INPUT		OUTPUT		FUNCTION
IN 1	IN 2	O1	O2	
0	0	"OFF" STATE	"OFF" STATE	IC PASSIVITY
1	0	1	0	POSITIVE ROTATING
0	1	0	1	NEGATIVE ROTATING
1	1	0	0	BRAKE

0 ; LOW LEVEL
1 ; HIGH LEVEL



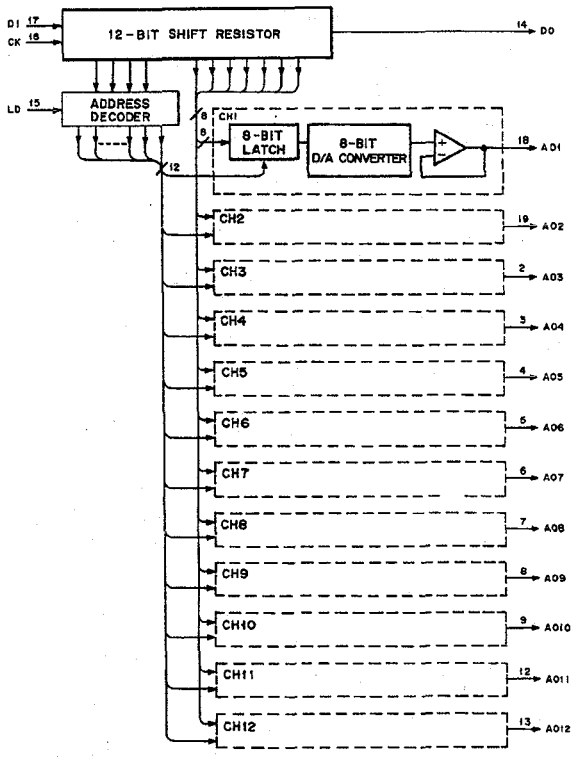
M62352FP (MITSUBISHI) FLAT PACKAGE
M62352P (MITSUBISHI)

C-MOS 8-BITx12 CHANNEL D/A CONVERTER
(WITH BUFFER OPERATIONAL AMPLIFIER)
—TOP VIEW—



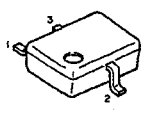
A01 – A012: 8-BIT D/A OUTPUT
CK : CLOCK INPUT
DI : SERIAL DATA INPUT
DO : DATA OUTPUT

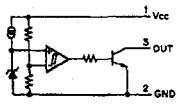
NOTE :
3.5V < VDD < Vcc
– 3.5V < Vss < Vcc



PST572CMT (MITSUMI) Vs=4.5V

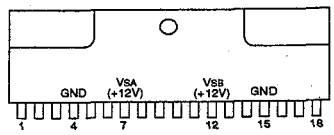
VOLTAGE DETECTOR,SYSTEM RESET

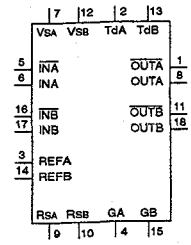




SLA7024M (SANKEN)

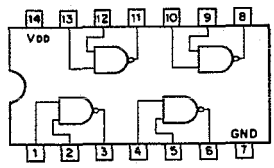
STEPPING MOTOR UNIPOLAR DRIVING
—SIDE VIEW—

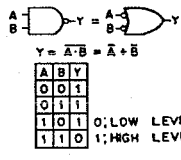




SN74HC00ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT NAND GATE
—TOP VIEW—





A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

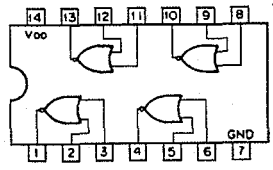
0; LOW LEVEL
1; HIGH LEVEL

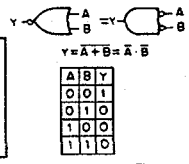
NOTE :

TYPE	VDD
TC74AC00P TC74AC00F	+2 to +5.5V
MC74HCT00N 74ACT00PC	+5V
OTHER TYPES	+2 to +6V

SN74HC02ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT NOR GATE
—TOP VIEW—





A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

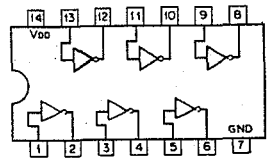
0. LOW LEVEL
1. HIGH LEVEL

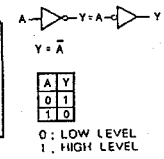
NOTE :

TYPE	VDD
TC74AC02F	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC04ANS (TI) FLAT PACKAGE

C-MOS HEX INVERTERS
—TOP VIEW—





A	Y
0	1
1	0

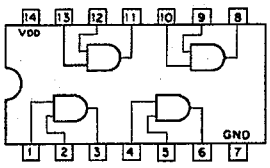
0 ; LOW LEVEL
1 ; HIGH LEVEL

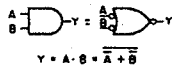
NOTE;

TYPE	VDD
74HCT04 TYPE	+5V
74VHC TC74AC04 TYPE	+2 to +5.5V
74ACT04 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC08ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT AND GATE
—TOP VIEW—





A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

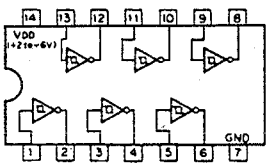
0 ; LOW LEVEL
1 ; HIGH LEVEL

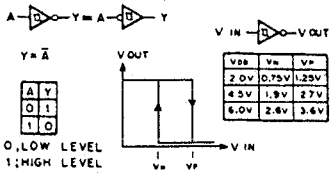
NOTE :

TYPE	VDD
TC74AC08F	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC14ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT AND GATE
—TOP VIEW—





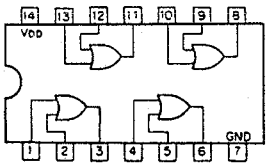
A	Y
0	1
1	0

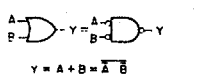
VDD	V-	V+
2.0V	0.75V	1.25V
4.5V	1.9V	2.7V
6.0V	2.6V	3.6V

0 ; LOW LEVEL
1 ; HIGH LEVEL

SN74HC32ANS (TI) FLAT PACKAGE

C-MOS 2-INPUT OR GATE
—TOP VIEW—





A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

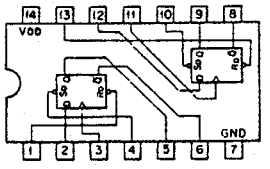
0 ; LOW LEVEL
1 ; HIGH LEVEL

NOTE

TYPE	VDD
TC74AC32	+2 to +5.5V
OTHER TYPES	+2 to +6V

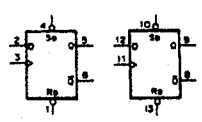
SN74HC74ANS (TI) FLAT PACKAGE

C-MOS D-TYPE FLIP FLOP WITH DIRECT SET/RESET
—TOP VIEW—



INPUTS				OUTPUTS	
S̄D	R̄D	CK	D	Qn+1	Q̄n+1
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1	1
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	Q̄n

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

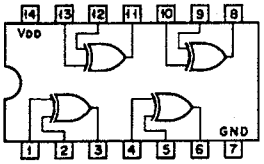


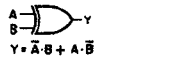
NOTE :

TYPE	VDD
74ACT	+5V
TC74AC74F	+2 to +5.5V
TC74ACT74F	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC86ANS (TI) FLAT PACKAGE

C-MOS EXCLUSIVE OR GATES
—TOP VIEW—





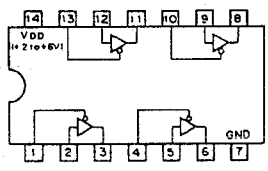
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

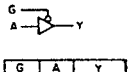
0 ; LOW LEVEL
1 ; HIGH LEVEL

TYPE	VDD
TC74AC86F	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC125ANS (TI) FLAT PACKAGE

C-MOS BUS BUFFER GATE WITH 3-STATE OUTPUT
—TOP VIEW—



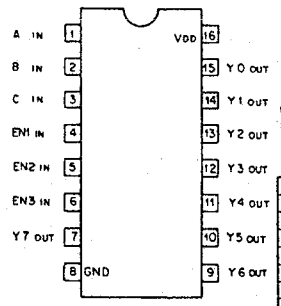


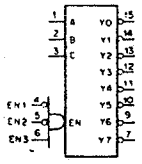
G	A	Y
0	0	0
0	1	1
1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

SN74HC138ANS (TI) FLAT PACKAGE

C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER
—TOP VIEW—





INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

NOTE :

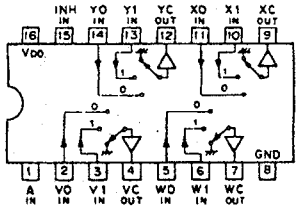
TYPE	VDD
74AC/74HC	+2 to +6V
74ACT/74HCT	+5V
TC74AC138	+2 to +5.5V

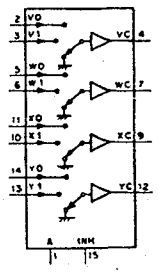
EN = EN1 · EN2 · EN3

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC157ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-LINE-TO-LINE DATA
SELECTOR/MULTIPLEXER
—TOP VIEW—





NOTE :

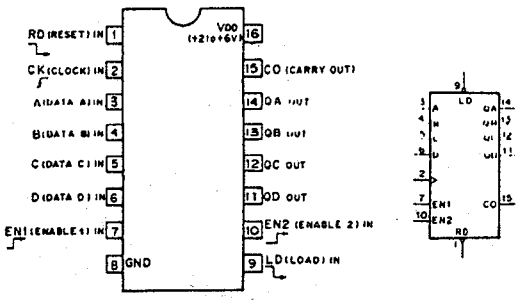
TYPE	VDD
74ACT157	+5V
TC74AC157P TC74AC157F	+2 to +5.5V
OTHER TYPES	+2 to +6V

CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC161ANS (TI) FLAT PACKAGE

C-MOS SYNCHRONOUS PRESETTABLE 4-BITBINARY COUNTER
—TOP VIEW—



MODE SELECTION

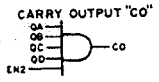
CONTROL INPUT				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (ASYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

COUNT	OUTPUT			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

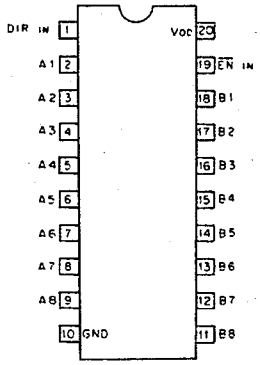
CARRY OUTPUT "CO"

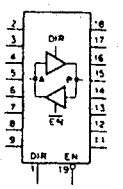


CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

SN74HC245ANS (TI) FLAT PACKAGE

C-MOS BILATERAL BUS TRANSCEIVERS WITH 2-STATE OUTPUT
—TOP VIEW—



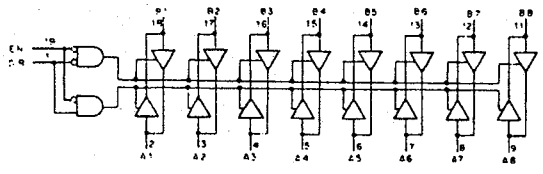


EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

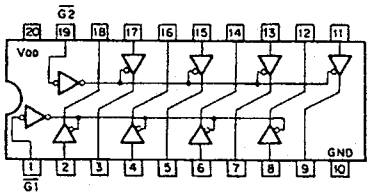
NOTE:

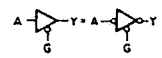
TYPE	VDD
AC HC	+2 to +6V
ACT HCT	+5V
TC74AC245F TC74AC245P	+2 to +5.5V



SN74HC244ANS (TI) FLAT PACKAGE

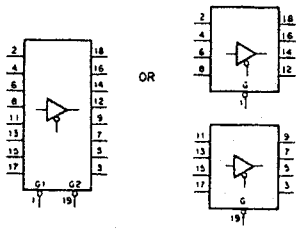
C-MOS BUS BUFFER WITH 3-STATE OUTPUT
—TOP VIEW—





G	A	Y
0	0	0
0	1	1
1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

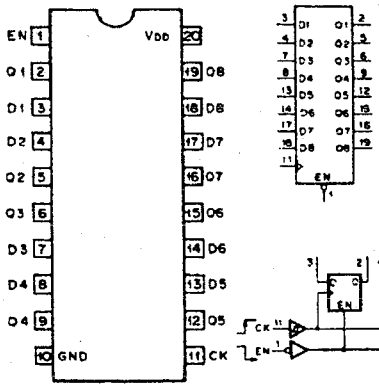


NOTE.

TYPE	VDD
AC HC 40H	+2 to +6V
ACT HCT	+5V

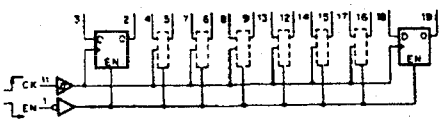
SN74HC374ANS (TI) (VDD=+2 to +8V) FLAT PACKAGE

C-MOS 3-STATE OCTAL D-TYPE FLIP-FLOP
—TOP VIEW—



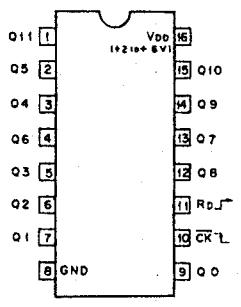
INPUTS			OUT
EN	D	CK	Q
0	1	↓	1
0	0	↓	0
0	X	0	Q0
1	X	X	HI-Z

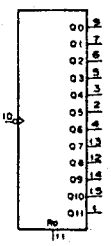
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

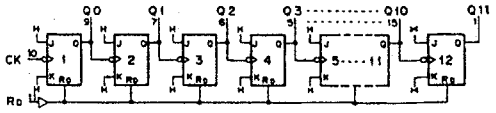


SN74HC4040ANS (TI) FLAT PACKAGE

C-MOS 12-STAGE RIPPLE CARRY BINARY COUNTER/DRIVER
—TOP VIEW—







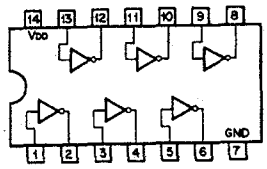
COUNT	Q11	Q10	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	1	0
3	0	0	0	0	0	0	0	0	0	0	1	1
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
4095	1	1	1	1	1	1	1	1	1	1	1	1

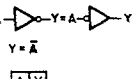
RD	Q11 ····· Q0
1	ALL LOW
0	COUNT

0; LOW LEVEL
1; HIGH LEVEL

SN74HCU04ANS (TI) FLAT PACKAGE

C-MOS BILATERAL BUS TRANSCEIVERS WITH 2-STATE OUTPUT
—TOP VIEW—





A	Y
0	1
1	0

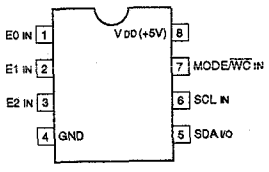
0 ; LOW LEVEL
1 ; HIGH LEVEL

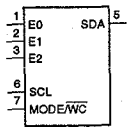
NOTE :

TYPE	VDD
74HCT04 TYPE	+ 5V
TC74AC04 TYPE TC74VHC04 TYPE	+ 2 to + 5.5V
74ACT04 TYPE	+ 4.5 to + 5.5V
OTHER TYPES	+ 2 to + 6V

ST24C01CB1 (SGS-THOMSON MICRO ELECTRONICS)

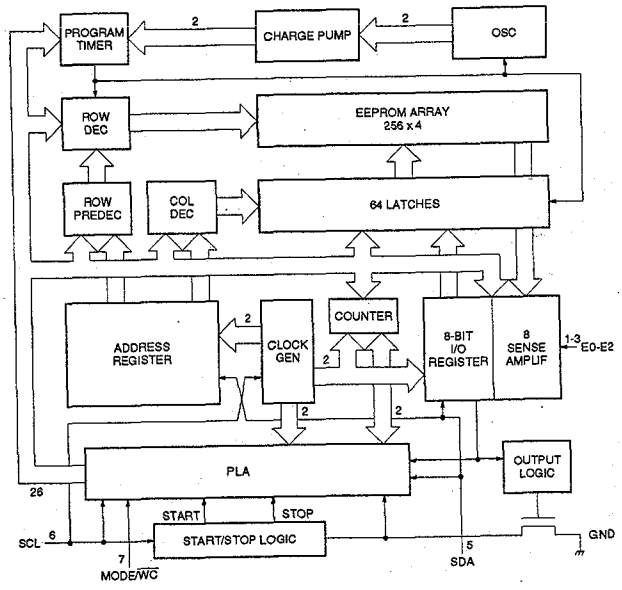
C-MOS 1K (256 x 4)-BIT EEPROM
—TOP VIEW—





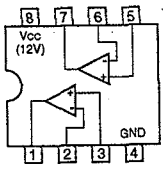
INPUT
E0-E2 ; CHIP ENABLE
SCL ; SERIAL CLOCK
MODE ; MULTIBYTE/PAGE WRITE MODE (C VERSION)
$\overline{WC}$; WRITE CONTROL (W VERSION)

INPUT/OUTPUT
SDA ; SERIAL DATA ADDRESS



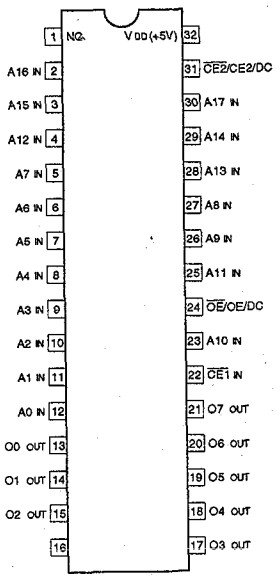
TA753581

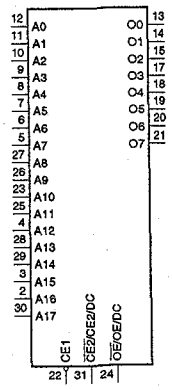
DUAL OPERATIONAL AMPLIFIER
—TOP VIEW—



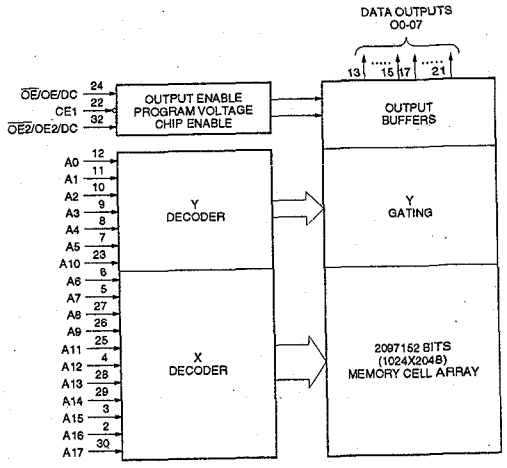
UPD27C2001GW (NEC)

C-MOS 2M (256Kw x 8)-BIT PROM
—TOP VIEW—





A0-A17 ; ADDRESS INPUT
O0-O7 ; DATA OUTPUT
CE1, 2 ; CHIP ENABLE
OE ; OUTPUT ENABLE

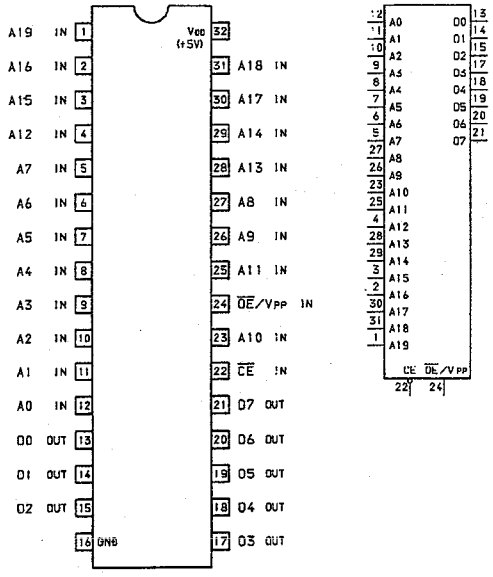


SYMBOL / MODE	$\overline{OE}$	$\overline{OE}$	$\overline{PGM}$	VPP	VDD	O0-O7
READ	0	0	1	5V	5V	DOUT
OUTPUT DISABLE	0	1	X			Hi-Z
STANDBY	1	X	X			Hi-Z
PAGE DATA LATCH	1	0	1	12.5V	6.5V	DIN
PAGE PROGRAM	1	1	0			Hi-Z
BYTE PROGRAM	0	1	1			DIN
PROGRAM VERIFY	0	0	1			DOUT
PROGRAM INHIBIT	X	0	0			Hi-Z
	X	1	1			

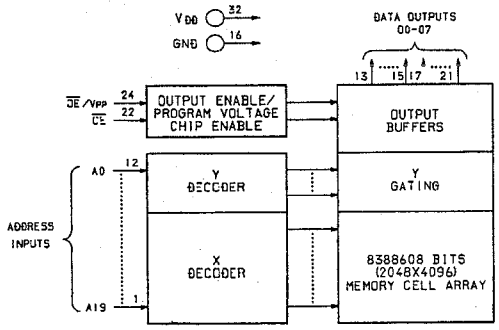
1 ; HIGH LEVEL
0 ; LOW LEVEL
X ; 1 (TTL LEVEL HIGH LEVEL) or 0 (TTL LEVEL LOW LEVEL)
Hi-Z ; HIGH IMPEDANCE

UPD27C8001GW (NEC) ONE TIME

C-MOS 8M (1,048,576 x 8)-BIT PROM
—TOP VIEW—



A0-A19 ;ADDRESS INPUTS
O0-O7 ;DATA OUTPUTS
$\overline{CE}$;CHIP ENABLE
$\overline{OE}$/VPP ;OUTPUT ENABLE/PROGRAM VOLTAGE



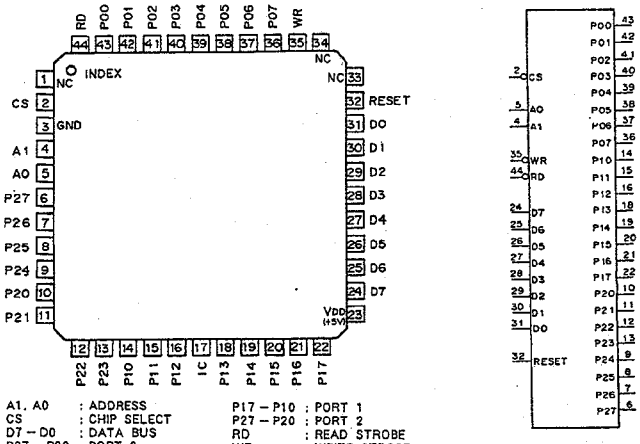
ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.

MODE \ SYMBOL	$\overline{CE}$	$\overline{OE}$/VPP	VDD	O0-O7
READ	0	0	+5V	DOUT
OUTPUT DISABLE	0	1		HI-Z
STANDBY	1	X		HI-Z
PROGRAM	0	+12.5	+6.5V	DIN
PROGRAM VERIFY	0	0		DOUT
PROGRAM INHIBIT	1	+12.5		HI-Z

1 ;HIGH LEVEL
0 ;LOW LEVEL
X ;DON'T CARE
HI-Z ;HIGH IMPEDANCE

UPD71055GB-3B4 (NEC) FLAT PACKAGE

C-MOS PARALLEL INTERFACE UNIT
—TOP VIEW—

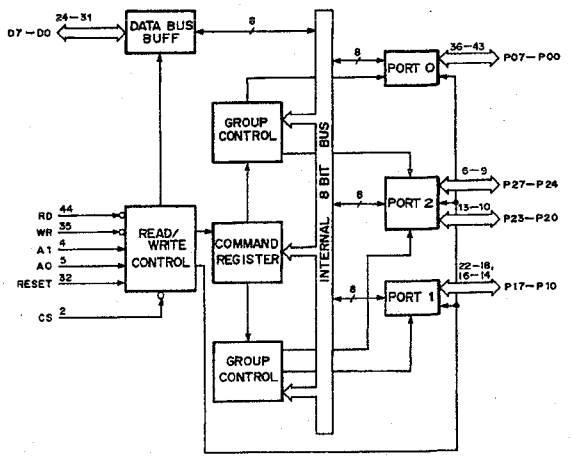


A1, A0 : ADDRESS
CS : CHIP SELECT
D7 – D0 : DATA BUS
P07 – P00 : PORT 0
P17 – P10 : PORT 1
P27 – P20 : PORT 2
RD : READ STROBE
WR : WRITE STROBE

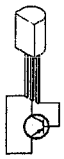
IC : INTERNALLY CONNECTED

CS	RD	WR	A1	A0	OPERATION	CPU ACTION
0	0	1	0	0	PROT0 → DATA·BUS	INPUT
0	0	1	0	1	PROT1 → DATA·BUS	INPUT
0	0	1	1	0	PROT2 → DATA·BUS	INPUT
0	0	1	1	1	DISABLE	
0	0	0	X	X		
0	1	0	0	0	DATA·BUS → PROT0	OUTPUT
0	1	0	0	1	DATA·BUS → PROT1	OUTPUT
0	1	0	1	0	DATA·BUS → PROT2	OUTPUT
0	1	0	1	1	DATA·BUS → COMMAND REGISTER	OUTPUT
0	1	1	X	X	HIGH IMPEDANCE	
1	X	X	X	X		

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

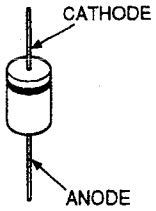


2SA673

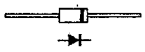


2SC945

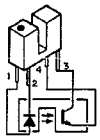
D5SC4M



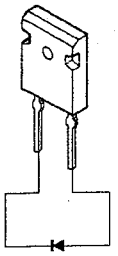
1SS120
1S2075K
10E-2
D1N60
ERB37-10



GP1S54

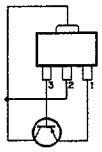


S20L60



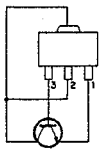
2SB798-DL

(SCALE 4/1)
TOP VIEW

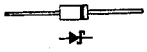


2SD999-CLCK

TOP VIEW (SCALE 4/1)

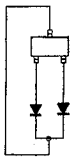


5P6M
D1NS4

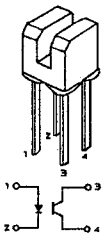


1S2837
1SS184

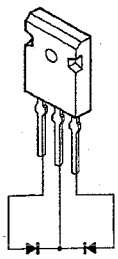
(SCALE 4/1)
TOP VIEW



GP2S40K

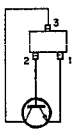


S20LC20U



2SC1623-LG

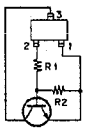
(SCALE 4/1)
TOP VIEW



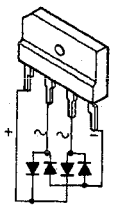
2SK1016

DTC124EK
DTC143TK

TOP VIEW (SCALE 4/1)

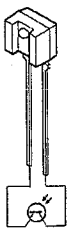


D10XB60

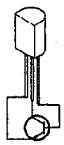


HZ20-1
HZ27-2
HZ5CLL
RD13ES-B2
RD36ES-B4
RD5.1ES-B2
RD7.5ES-B3

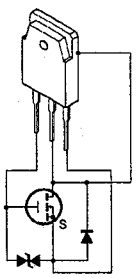
TLN107A



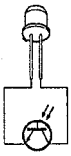
2SC2655



2SK1796

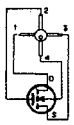


PT501A



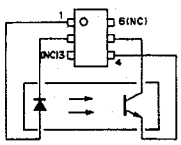
D1LN20

- TOP VIEW -



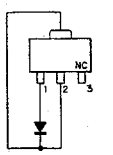
PC111YS

TOP VIEW (SCALE 2/1)

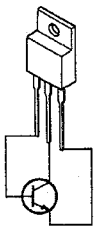


RB110C

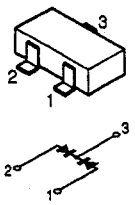
TOP VIEW (SCALE 4/1)



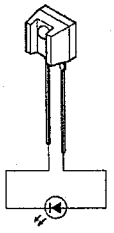
2SC3456M



D2S4M

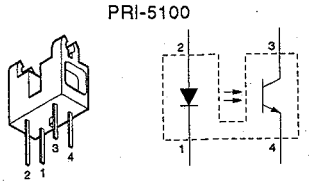


TPS607A



GL514A

PRI-5100



SECTION 5
EXPLODED VIEWS

NOTE:

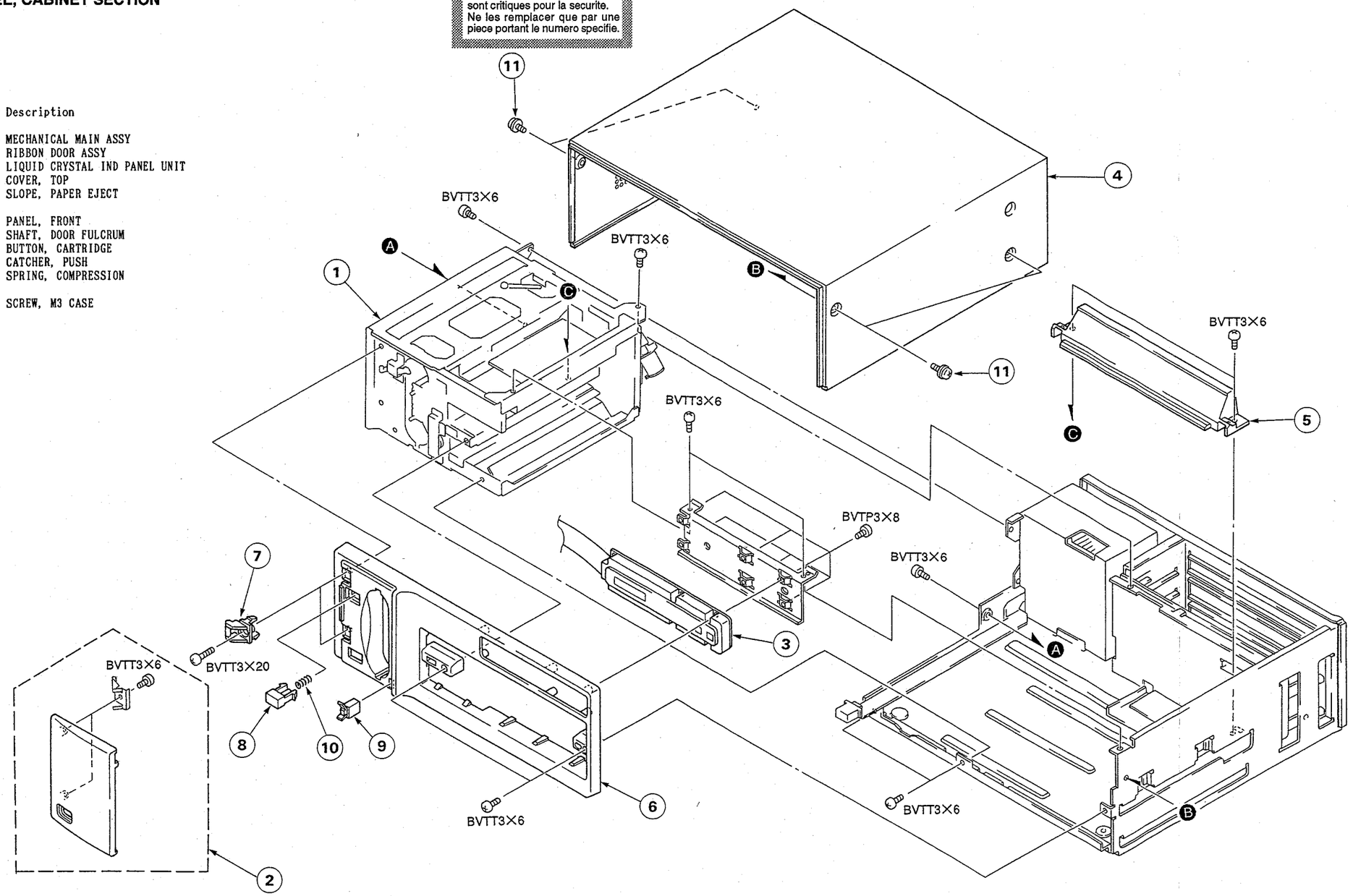
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "O" in the SP column are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

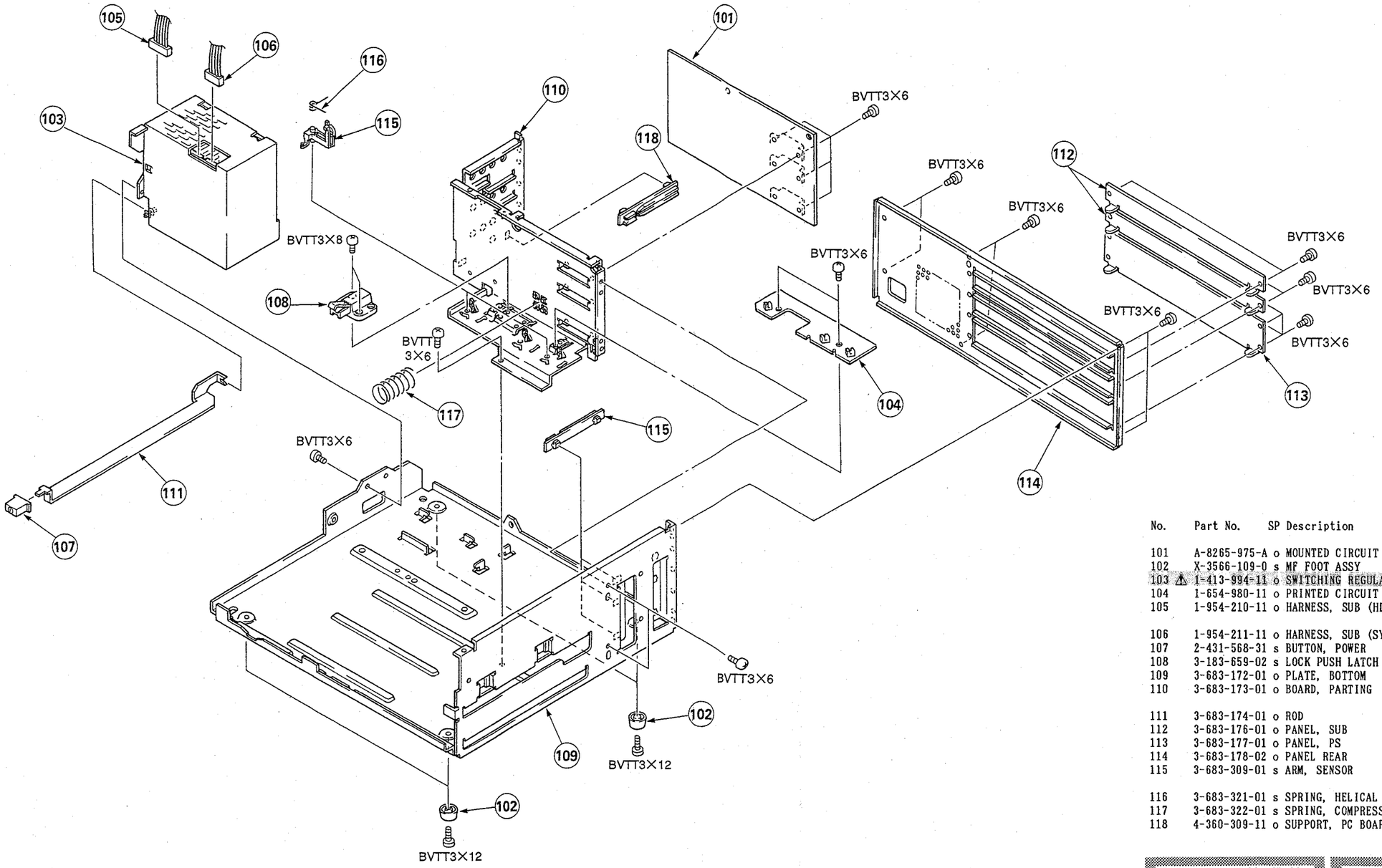
Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

5-1. FRONT PANEL, CABINET SECTION

No.	Part No.	SP	Description
1	A-8265-964-A	o	MECHANICAL MAIN ASSY
2	A-8278-100-B	s	RIBBON DOOR ASSY
3	1-467-987-12	s	LIQUID CRYSTAL IND PANEL UNIT
4	3-683-175-01	o	COVER, TOP
5	3-683-194-01	s	SLOPE, PAPER EJECT
6	3-683-328-05	s	PANEL, FRONT
7	3-725-630-02	s	SHAFT, DOOR FULCRUM
8	3-725-631-01	s	BUTTON, CARTRIDGE
9	4-392-036-01	s	CATCHER, PUSH
10	4-864-519-02	s	SPRING, COMPRESSION
11	4-886-821-11	s	SCREW, M3 CASE



5-2. REAR PANEL, CHASSIS SECTION

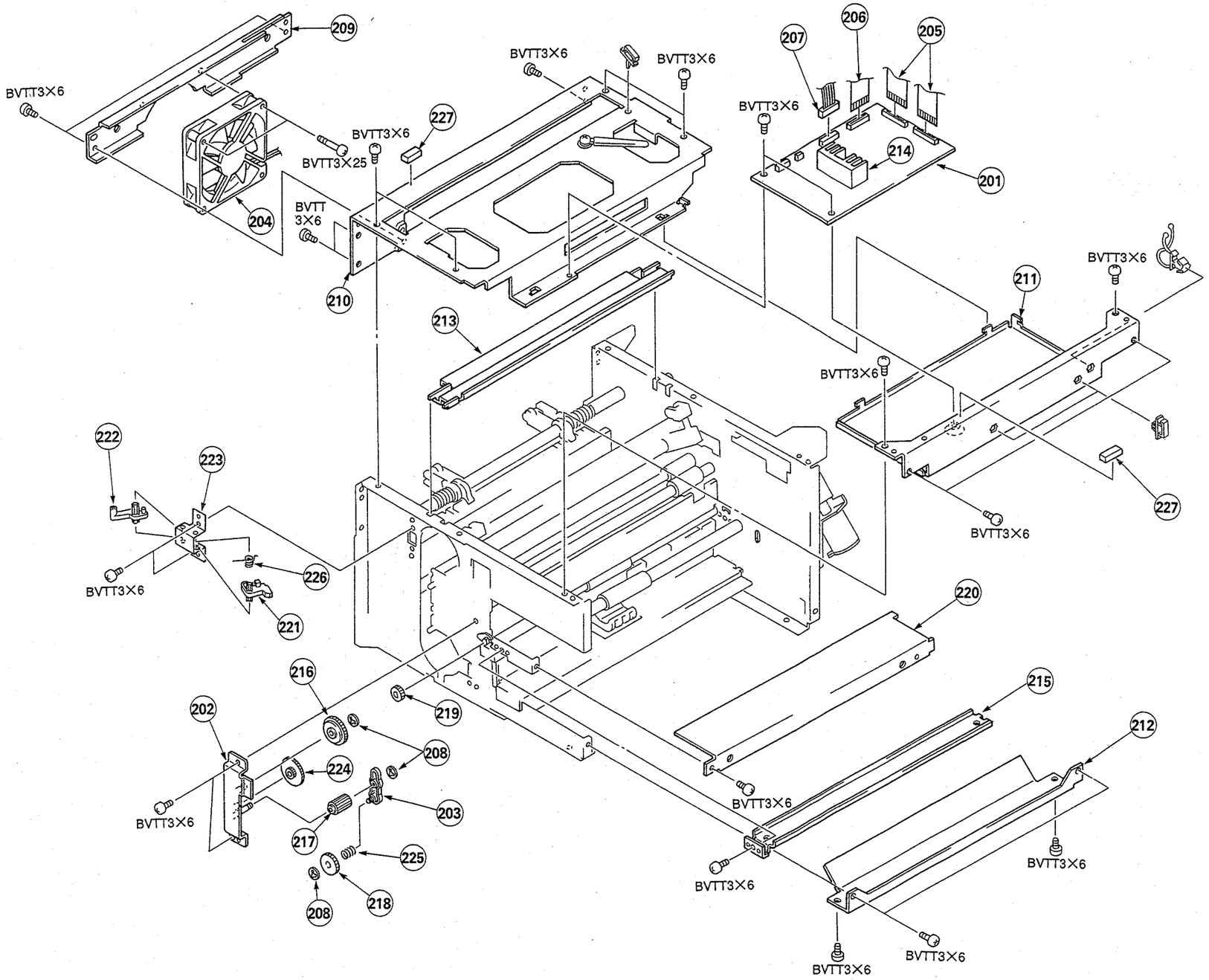


No.	Part No.	SP	Description
101	A-8265-975-A	o	MOUNTED CIRCUIT BOARD, SY-12
102	X-3566-109-0	s	MF FOOT ASSY
103 ⚠	1-413-994-11	o	SWITCHING REGULATOR
104	1-654-980-11	o	PRINTED CIRCUIT BOARD, SE-38
105	1-954-210-11	o	HARNESS, SUB (HD)
106	1-954-211-11	o	HARNESS, SUB (SY)
107	2-431-568-31	s	BUTTON, POWER
108	3-183-659-02	s	LOCK PUSH LATCH (D-60 BRACK)
109	3-683-172-01	o	PLATE, BOTTOM
110	3-683-173-01	o	BOARD, PARTING
111	3-683-174-01	o	ROD
112	3-683-176-01	o	PANEL, SUB
113	3-683-177-01	o	PANEL, PS
114	3-683-178-02	o	PANEL REAR
115	3-683-309-01	s	ARM, SENSOR
116	3-683-321-01	s	SPRING, HELICAL TORSION
117	3-683-322-01	s	SPRING, COMPRESSION
118	4-360-309-11	o	SUPPORT, PC BOARD

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

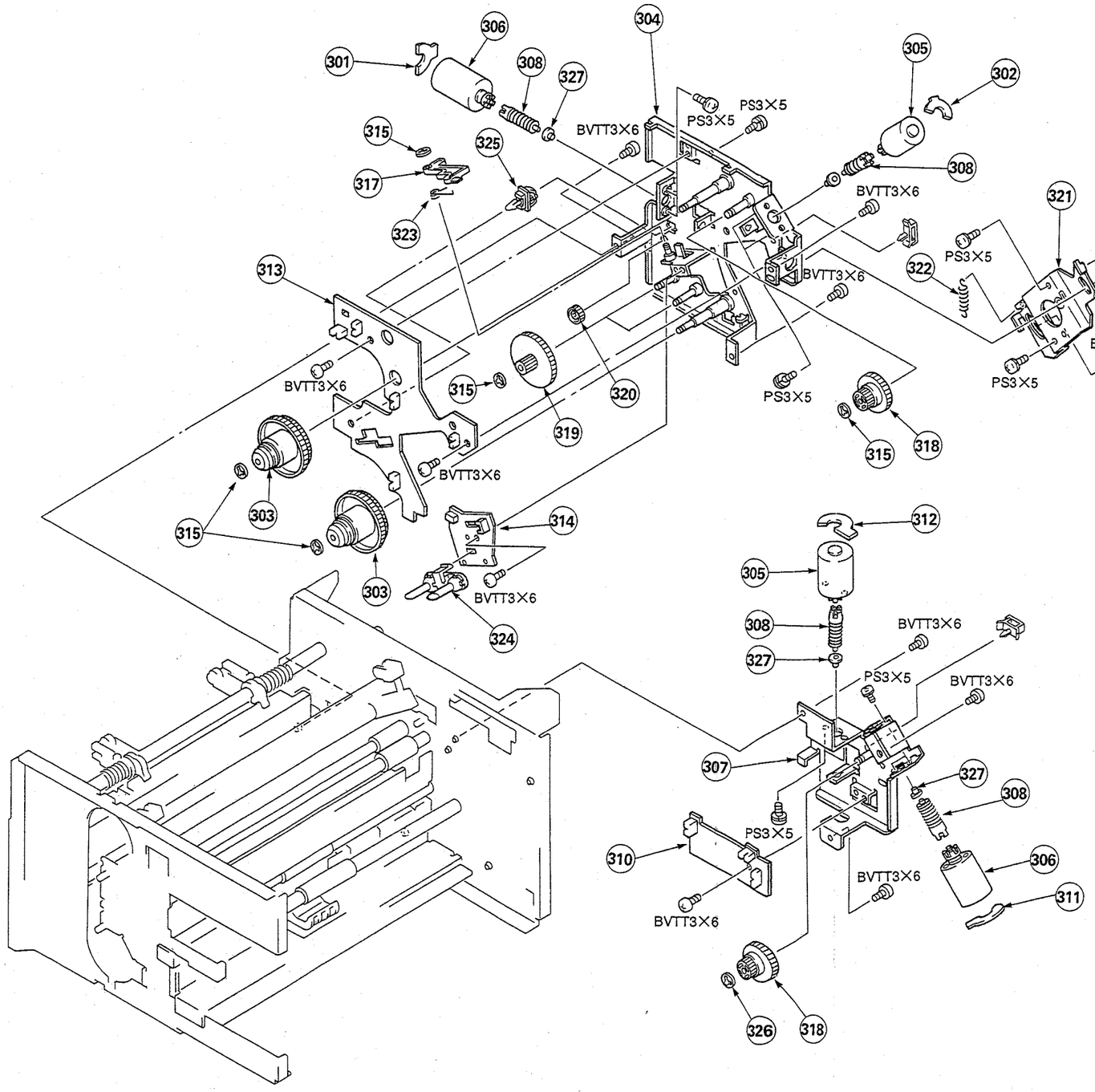
Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

5-3. MECHANISM SECTION (1)



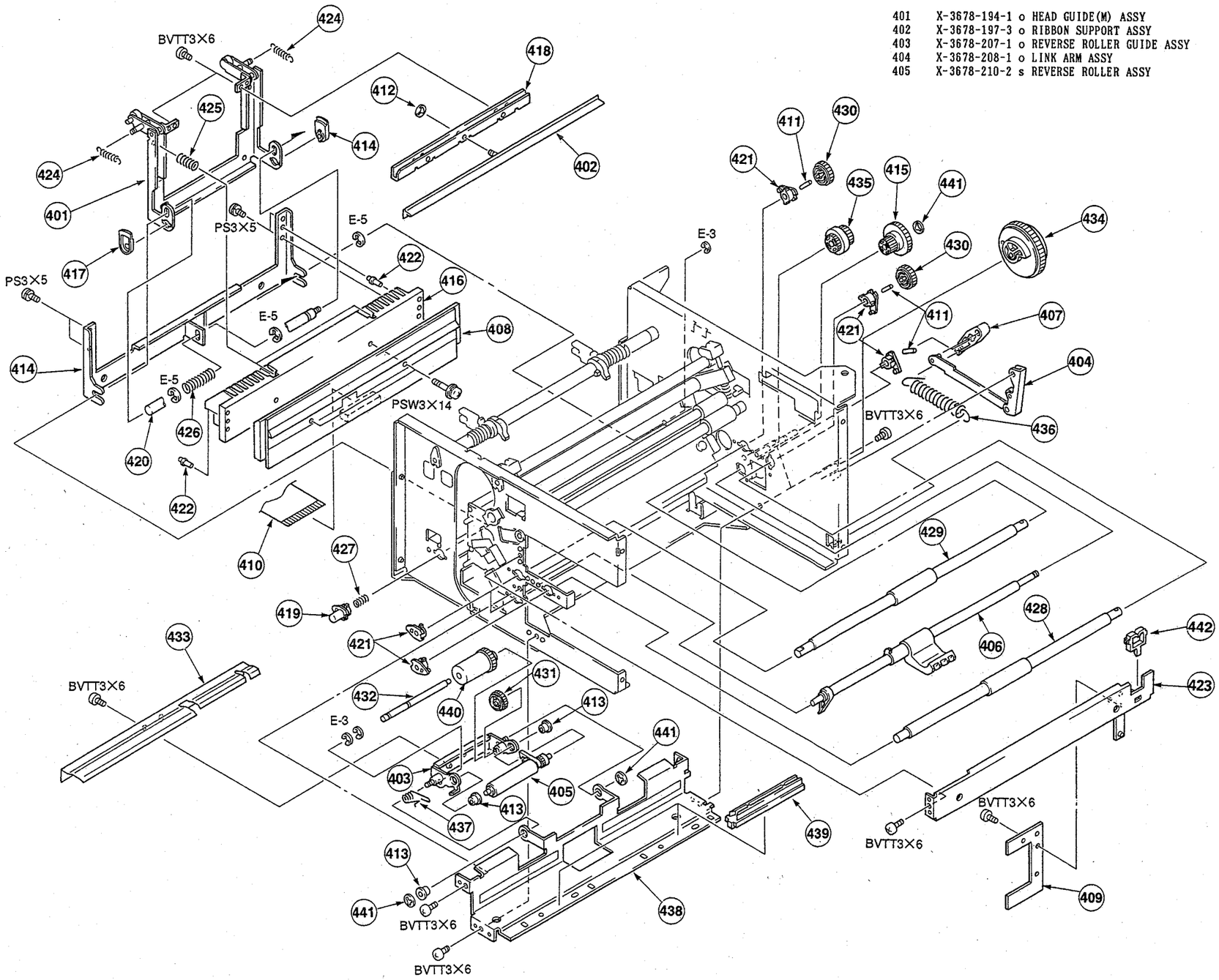
No.	Part No.	SP	Description
201	A-8265-967-A	o	MOUNTED CIRCUIT BOARD, MEC-2
202	X-3678-214-1	o	CODE GEAR BRACKET ASSY
203	X-3678-215-1	s	CODE ARM ASSY
204	1-698-549-11	s	FAN, DC
205	1-769-534-11	s	WIRE, (FLAT TYPE)(24 CORE)
206	1-769-535-11	s	WIRE, (FLAT TYPE)(15 CORE)
207	1-954-208-11	o	HARNESS, SUB (HDRBN)
208	3-669-596-01	s	WASHER(2.3), STOPPER
209	3-683-104-02	o	BRACKET, FAN
210	3-683-105-01	o	PLATE, TOP
211	3-683-106-01	o	CONER(T)
212	3-683-107-03	o	CONER(B)
213	3-683-110-01	o	GUIDE, RIBBON CASSETTE
214	3-683-146-01	o	HEAT SINK (IC)
215	3-683-163-02	o	SUPPORT, SUPPLY
216	3-683-183-01	s	GEAR(L), CODE IDLER
217	3-683-184-01	s	GEAR(S), CODE IDLER
218	3-683-185-01	s	GEAR(M), CODE IDLER
219	3-683-186-01	s	GEAR, CODE DRIVE
220	3-683-193-01	o	GUIDE, PAPER EJECT TRAY
221	3-683-306-01	s	ARM, EJECT LOCK
222	3-683-307-01	s	ARM, EJECT
223	3-683-308-01	o	PLATE, EJECT
224	3-683-318-01	s	GEAR, CODE ACCEL
225	3-683-320-01	s	SPRING, COMPRESSION
226	3-725-732-01	s	SPRING, TORSION
227	4-911-041-01	o	CUSHION, RUBBER

5-4. MECHANISM SECTION (2)



No.	Part No.	SP	Description
301	A-8265-949-A	o	MOUNTED CIRCUIT BOARD, SU-11 (HEAD)
302	A-8265-952-A	o	MOUNTED CIRCUIT BOARD, SU-14 (TKUP)
303	A-8278-083-A	s	SPROCKET ASSY
304	X-3678-202-2	o	MOTOR BRACKET(T) ASSY
305	X-3678-205-1	s	DC MOTOR(MT) ASSY
306	X-3678-206-1	s	DC MOTOR(MB) ASSY
307	X-3678-209-1	o	MOTOR BRACKET(K) ASSY
308	X-3737-811-1	s	WORM BLOCK ASSY
309	1-541-965-11	s	MOTOR, STEPPING
310	1-654-976-11	o	PRINTED CIRCUIT BOARD, SE-27
311	1-654-981-11	o	PRINTED CIRCUIT BOARD, SU-12
312	1-654-982-11	o	PRINTED CIRCUIT BOARD, SU-13
313	1-654-983-11	o	PRINTED CIRCUIT BOARD, SE-28
314	1-654-984-11	o	PRINTED CIRCUIT BOARD, SE-37
315	3-669-596-01	s	WASHER(2.3), STOPPER
316	3-683-040-01	s	PULLEY, PULSE MOTOR
317	3-683-045-01	s	ARM, RIBBON CASSETTE EJECT
318	3-683-046-01	s	WHEEL, WORM
319	3-683-060-01	s	GEAR, RIBBON IDLER
320	3-683-061-01	s	GEAR, SUPPLY MOTOR
321	3-683-109-01	o	BRACKET, MOTOR(P)
322	3-683-125-01	s	SPRING, EXTENSION
323	3-683-128-01	s	SPRING, HELICAL TORSION
324	3-683-134-01	s	GUIDE, LIGHT
325	3-683-144-01	o	PC SUPPORT
326	3-696-510-01	s	WASHER(3), STOPPER
327	3-737-880-01	s	CAP, WORM SHAFT

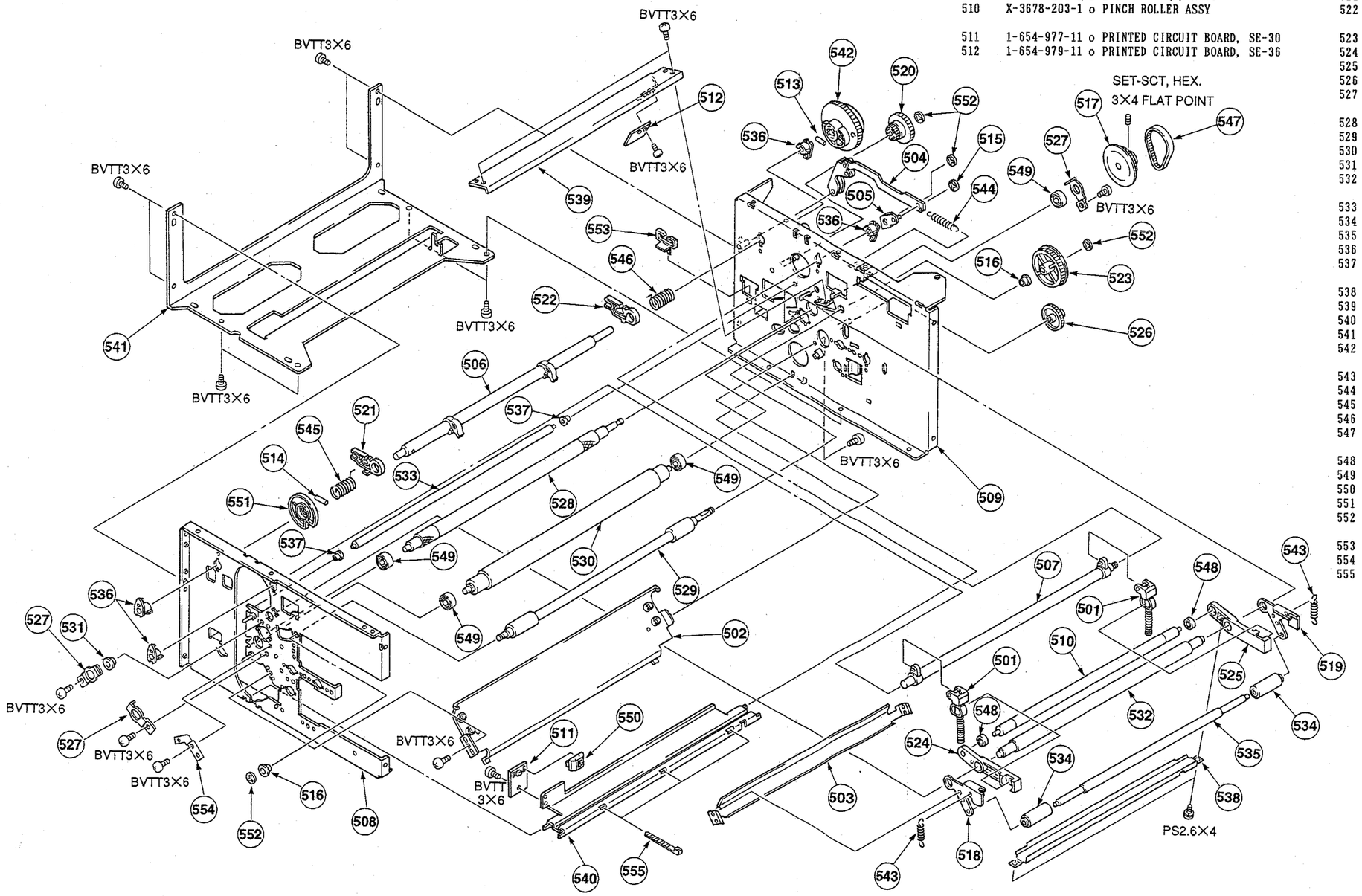
5-5. MECHANISM SECTION (3)



No.	Part No.	SP	Description
401	X-3678-194-1	o	HEAD GUIDE(M) ASSY
402	X-3678-197-3	o	RIBBON SUPPORT ASSY
403	X-3678-207-1	o	REVERSE ROLLER GUIDE ASSY
404	X-3678-208-1	o	LINK ARM ASSY
405	X-3678-210-2	s	REVERSE ROLLER ASSY

No.	Part No.	SP	Description
406	X-3678-211-2	o	SUPPLY LEVER ASSY
407	X-3678-213-2	o	SUPPLY DRIVE ARM ASSY
408	1-500-174-11	s	HEAD, THERMAL
409	1-654-978-11	o	PRINTED CIRCUIT BOARD, SE-34
410	1-769-389-11	s	WIRE, (FLAT TYPE)(32 CORE)
411	2-249-361-00	s	PIN, PARALLEL
412	3-669-596-01	s	WASHER (2.3), STOPPER
413	3-683-036-01	s	BEARING(M)
414	3-683-037-02	o	GUIDE, HEAD(S)
415	3-683-046-01	s	WHEEL, WORM
416	3-683-047-01	o	HEAT SINK
417	3-683-048-01	s	LEVER, HEAD GUIDE FIXED
418	3-683-052-01	o	BASE, RIBBON SUPPORT
419	3-683-065-01	s	RETAINER, HEAD GUIDE SHAFT
420	3-683-072-01	o	SHAFT, HEAD GUIDE
421	3-683-088-01	s	BEARING(L)
422	3-683-091-01	o	PIN, HEAD POSITIONING
423	3-683-108-01	o	BRACKET, OHP SENSOR
424	3-683-118-01	s	SPRING, EXTENSION
425	3-683-120-01	s	SPRING, COMPRESSION
426	3-683-123-01	s	SPRING, COMPRESSION
427	3-683-124-01	s	SPRING, COMPRESSION
428	3-683-150-01	s	ROLLER, PICK UP
429	3-683-151-01	s	ROLLER, SUPPLY
430	3-683-153-01	s	GEAR, SUPPLY ROLLER DRIVING
431	3-683-158-01	s	GEAR, REVERSE IDLER
432	3-683-160-01	o	SHAFT, LIMITER
433	3-683-168-01	o	GUIDE, REVERSE PAPER
434	3-683-170-01	s	CAM, SUPPLY LEVER DRIVING
435	3-683-171-01	s	GEAR, SUPPLY ROLLER IDLER
436	3-683-302-01	s	SPRING, EXTENSION
437	3-683-303-01	s	SPRING, TORSION
438	3-683-311-01	o	GUIDE, TRAY
439	3-683-312-01	s	GUIDE, RAIL
440	3-683-317-01	s	LIMITER
441	3-696-510-01	s	WASHER(3), STOPPER
442	4-310-385-00	o	HOLDER, WIRE

5-6. MECHANISM SECTION (4)



No.	Part No.	SP	Description
501	A-8278-086-A	s	CAPSTAN SPRING ASSY
502	X-3678-191-2	s	SUPPLY GUIDE ASSY
503	X-3678-192-1	s	EJECT GUIDE ASSY
504	X-3678-195-1	o	CAPSTAN DRIVING CAM ARM ASSY
505	X-3678-196-1	o	CAPSTAN DRIVING SHAFT ARM ASSY
506	X-3678-198-1	s	HEAD DRIVING SHAFT ASSY
507	X-3678-199-1	s	CAPSTAN DRIVING SHAFT ASSY
508	X-3678-200-2	o	SIDE PLATE(F) ASSY
509	X-3678-201-2	o	SIDE PLATE(R) ASSY
510	X-3678-203-1	o	PINCH ROLLER ASSY
511	1-654-977-11	o	PRINTED CIRCUIT BOARD, SE-30
512	1-654-979-11	o	PRINTED CIRCUIT BOARD, SE-36
513	2-249-361-00	s	PIN, PARALLEL
514	3-661-278-01	s	PIN, PARALLEL
515	3-669-596-01	s	WASHER(2.3), STOPPER
516	3-683-036-01	s	BEARING(M)
517	3-683-039-01	s	PULLEY, CAPSTAN
518	3-683-042-01	o	ARM, EJECT ROLLER(F)
519	3-683-043-01	o	ARM, EJECT ROLLER(R)
520	3-683-046-01	s	WHEEL, WORM
521	3-683-050-01	s	ARM, HEAD DRIVING(F)
522	3-683-051-01	s	ARM, HEAD DRIVING(R)
523	3-683-054-01	s	GEAR, EJECT ROLLER
524	3-683-057-01	o	ARM, CAPSTAN(F)
525	3-683-058-01	o	ARM, CAPSTAN(R)
526	3-683-059-01	s	GEAR, EJECT IDLER
527	3-683-066-01	o	RETAINER, BEARING
528	3-683-070-01	s	CAPSTAN
529	3-683-071-01	s	ROLLER, EJECT
530	3-683-073-01	s	PLATEN
531	3-683-074-01	s	BEARING, CAPSTAN ARM
532	3-683-084-01	o	SHAFT, CAPSTAN ARM
533	3-683-085-01	s	ROLLER, RIBBON GUIDE
534	3-683-086-01	s	PINCH ROLLER, EJECT
535	3-683-087-01	o	SHAFT, EJECT PINCH ROLLER
536	3-683-088-01	s	BEARING(L)
537	3-683-089-01	s	BEARING(S)
538	3-683-101-03	o	GUIDE, EJECT(M)
539	3-683-103-02	o	GUIDE, EJECT(B)
540	3-683-110-01	o	GUIDE, RIBBON CASSETTE
541	3-683-112-01	o	PLATE, BASE
542	3-683-113-01	s	CAM, CAPSTAN DRIVING
543	3-683-119-01	s	SPRING, EXTENSION
544	3-683-122-01	s	SPRING, EXTENSION
545	3-683-126-01	s	SPRING, HELICAL TORSION
546	3-683-127-01	s	SPRING, HELICAL TORSION
547	3-683-138-01	s	TIMING BELT
548	3-683-139-01	o	FLANGELESS BALL BEARING
549	3-683-140-01	o	FLANGELESS BALL BEARING
550	3-683-142-01	s	COVER, SENSOR
551	3-683-305-01	s	STOPPER, EJECT
552	3-696-510-01	s	WASHER(3), STOPPER
553	3-698-787-01	s	HOLDER, WIRE
554	3-737-810-01	o	SPRING
555	3-847-356-02	o	CLAMP

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Items marked "O" in the SP column are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise stated.

When indicating part by reference number, please include the board name.

RESISTORS
- All resistors are in ohms.
- F:non-flammable

CAPACITORS
- MF: μF, PF: μμF

COILS
- MMH: mH, UH: μH

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

MEC-2 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8265-967-A	o	MOUNTED CIRCUIT BOARD, MEC-2
1pc	3-683-146-01	o	HEAT SINK (IC)
2pcs	7-682-646-09	s	SCREW +PS 3X5
			<CAPACITOR>
C1	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C2	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C3	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C4	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C5	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C6	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C7	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C8	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C101	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C102	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C103	1-164-161-11	s	CERAMIC, CHIP 0.0022uF 10% 50V
C104	1-164-161-11	s	CERAMIC, CHIP 0.0022uF 10% 50V
C105	1-128-403-11	s	ELECT 47uF 20% 35V
C106	1-128-403-11	s	ELECT 47uF 20% 35V
C107	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C201	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C202	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C203	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C204	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C205	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C206	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C207	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C208	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C209	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C210	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C211	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C212	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C213	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C214	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C215	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C216	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C217	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C218	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C219	1-164-161-11	s	CERAMIC, CHIP 0.0022uF 10% 50V
C220	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C221	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C222	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C223	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C224	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V

(MEC-2 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C225	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C226	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
			<CONNECTOR>
CN401	1-764-782-11	o	HOUSING, CONNECTOR 24P
CN402	1-764-782-11	o	HOUSING, CONNECTOR 24P
CN403	1-560-894-00	o	PIN, CONNECTOR 6P
CN404	1-564-007-11	o	CONNECTOR 8P, MALE
CN405	1-506-476-11	o	CONNECTOR, 11P, MALE
CN406	1-750-840-21	s	HOUSING, CONNECTOR 15P
CN407	1-564-004-11	o	PIN, CONNECTOR 5P
CN408	1-564-002-11	s	PIN, CONNECTOR 3P
CN409	1-506-468-11	o	CONNECTOR, 3P, MALE
CN410	1-506-474-11	o	CONNECTOR, 9P, MALE
			<DIODE>
D101	8-719-200-02	s	DIODE 10E2
D102	8-719-200-02	s	DIODE 10E2
D103	8-719-200-02	s	DIODE 10E2
D104	8-719-200-02	s	DIODE 10E2
D105	8-719-200-02	s	DIODE 10E2
D106	8-719-200-02	s	DIODE 10E2
			<IC>
IC101	8-759-323-72	s	IC SLA7024M-871
IC102	8-759-600-24	s	IC M54543L
IC103	8-759-633-10	s	IC M54544AL
IC104	8-759-633-10	s	IC M54544AL
IC105	8-759-600-24	s	IC M54543L
IC106	8-759-633-10	s	IC M54544AL
IC201	8-759-280-75	s	IC ST24C01CB1
IC202	8-759-983-69	s	IC LM358PS
IC203	8-759-983-69	s	IC LM358PS
			<COIL>
L1	1-424-653-11	s	COIL, CHOKE 10UH
			<TRANSISTOR>
Q101	8-729-140-75	s	TRANSISTOR 2SD999-CLCK
Q201	8-729-101-07	s	TRANSISTOR 2SB798
Q202	8-729-901-00	s	TRANSISTOR DTC124EK
Q203	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q204	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q205	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6

(MEC-2 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
			<RESISTOR>
R101	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R102	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R103	1-216-389-11	s	METAL 1 5% 3W
R104	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R105	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R106	1-216-389-11	s	METAL 1 5% 3W
R107	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R108	1-216-023-00	s	METAL, CHIP 82 5% 1/10W
R109	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R110	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R111	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R112	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R113	1-216-049-91	s	METAL 1K 5% 1/10W
R114	1-216-049-91	s	METAL 1K 5% 1/10W
R115	1-216-049-91	s	METAL 1K 5% 1/10W
R116	1-216-049-91	s	METAL 1K 5% 1/10W
R117	1-216-049-91	s	METAL 1K 5% 1/10W
R118	1-216-049-91	s	METAL 1K 5% 1/10W
R119	1-216-049-91	s	METAL 1K 5% 1/10W
R120	1-216-049-91	s	METAL 1K 5% 1/10W
R121	1-216-049-91	s	METAL 1K 5% 1/10W
R122	1-216-049-91	s	METAL 1K 5% 1/10W
R123	1-216-049-91	s	METAL 1K 5% 1/10W
R124	1-218-236-91	s	METAL 1 10% 1/4W
R125	1-218-236-91	s	METAL 1 10% 1/4W
R126	1-218-236-91	s	METAL 1 10% 1/4W
R127	1-218-236-91	s	METAL 1 10% 1/4W
R201	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R202	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R203	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R204	1-216-049-91	s	METAL 1K 5% 1/10W
R205	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R206	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R207	1-216-049-91	s	METAL 1K 5% 1/10W
R208	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R209	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R210	1-216-049-91	s	METAL 1K 5% 1/10W
R211	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R212	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R213	1-216-049-91	s	METAL 1K 5% 1/10W
R214	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R215	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R216	1-216-049-91	s	METAL 1K 5% 1/10W
R217	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R218	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R219	1-216-049-91	s	METAL 1K 5% 1/10W
R220	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R221	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R222	1-216-049-91	s	METAL 1K 5% 1/10W
R223	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R224	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R225	1-216-049-91	s	METAL 1K 5% 1/10W
R226	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R227	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R228	1-216-049-91	s	METAL 1K 5% 1/10W
R229	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R230	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R231	1-216-049-91	s	METAL 1K 5% 1/10W

(MEC-2 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R232	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R233	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R234	1-216-049-91	s	METAL 1K 5% 1/10W
R235	1-216-025-91	s	METAL 100 5% 1/10W
R236	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R237	1-216-049-91	s	METAL 1K 5% 1/10W
R238	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R239	1-216-049-91	s	METAL 1K 5% 1/10W
R240	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R241	1-216-049-91	s	METAL 1K 5% 1/10W
R242	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R243	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R244	1-216-049-91	s	METAL 1K 5% 1/10W
R245	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R246	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R247	1-216-049-91	s	METAL 1K 5% 1/10W
R248	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R249	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R250	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R251	1-216-049-91	s	METAL 1K 5% 1/10W
R252	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R253	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R254	1-216-049-91	s	METAL 1K 5% 1/10W
R255	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R256	1-216-689-11	s	METAL, CHIP 39K 5% 1/10W
R257	1-216-049-91	s	METAL 1K 5% 1/10W

SE-27 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-976-11	o	PC BOARD, SE-27
			<PHOTO INTERRUPTER>
PH101	8-719-939-05	s	PHOTO INTERRUPTER GP1S54
PH102	8-719-939-05	s	PHOTO INTERRUPTER GP1S54
PH114	8-719-939-05	s	PHOTO INTERRUPTER GP1S54
			<HARNESS>
W701	1-954-209-11	o	HARNESS, SUB (ARMLD)

SE-28 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-983-11	o	PRINTED CIRCUIT BOARD, SE-28
			<CAPACITOR>
CN705	1-506-481-11	o	CONNECTOR, 2P
CN706	1-564-718-11	o	CONNECTOR, 2P
CN707	1-766-901-11	s	CONNECTOR, FFC/FPC (ZIF) 15P
CN708	1-569-339-11	s	CONNECTOR, BOARD TO BOARD 7P

(SE-28 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
			<PHOTO INTERRUPTER>
PH103	8-719-939-05	s	PHOTO INTERRUPTER GP1S54
PH104	8-719-939-05	s	PHOTO INTERRUPTER GP1S54
PH105	8-719-939-05	s	PHOTO INTERRUPTER GP1S54
PH106	8-719-939-05	s	PHOTO INTERRUPTER GP1S54
PH109	8-719-939-05	s	PHOTO INTERRUPTER GP1S54

SE-30 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-977-11	o	PRINTED CIRCUIT BOARD, SE-30
			<PHOTO INTERRUPTER>
PH107	8-749-923-97	s	PHOTO INTERRUPTER GP2S40K
			<HARNESS>
W704	1-954-206-12	o	HARNESS, SUB (BCODE)

SE-34 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-978-11	o	PRINTED CIRCUIT BOARD, SE-34
1pc	3-683-044-01	s	PLATE, SUPPLY SENSOR
1pc	3-683-129-02	s	SPRING, HELICAL TORSION
2pcs	3-737-916-02	s	COVER, SENSOR
			<DIODE & PHOTO INTERRUPTER>
D101	8-719-049-46	s	DIODE TLN107A-B
PH108	8-749-010-50	s	PHOTO INTERUPTER RPI-5100
			<TRANSISTOR>
Q101	8-729-027-69	s	TRANSISTOR TPS607A-B
			<HARNESS>
W702	1-954-204-11	o	HARNESS, SUB (PTO OHP)

SE-36 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-979-11	o	PRINTED CIRCUIT BOARD, SE-36
1pc	3-683-049-01	s	PLATE, EDGE SENSOR
1pc	3-683-129-02	s	SPRING, HELICAL TORSION
			<PHOTO INTERRUPTER>
PH110	8-749-010-50	s	PHOTO INTERUPTER RPI-5100
			<HARNESS>
W703	1-954-205-11	o	HARNESS, SUB (PEDGE)

SE-37 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-984-11	o	PRINTED CIRCUIT BOARD, SE-37
			<CONNECTOR>
CN709	1-569-336-11	s	CONNECTOR, BOARD TO BOARD 7P
			<DIODE>
D102	8-719-049-47	s	DIODE GL514A
			<PHOTO INTERRUPTER>
PH114	1-810-472-11	s	PHOTO SENSOR
			<TRANSISTOR>
Q102	8-719-988-59	s	PHOTO TRANSISTOR PT501A

SE-38 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-980-11	o	PRINTED CIRCUIT BOARD, SE-38
			<PHOTO INTERRUPTER>
PH111	8-719-939-05	s	PHOTO INTERRUPTER GP1S54
PH113	8-719-939-05	s	PHOTO INTERRUPTER GP1S54
			<THERMISTOR>
TH101	1-800-202-99	s	THERMISTOR S-10K
			<HARNESS>
W705	1-954-207-11	o	HARNESS, SUB (PSIZE)

SU-11 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8265-949-A	o	MOUNTED CIRCUIT BOARD, SU-11 (HEAD)

SU-12 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-981-11	o	PRINTED CIRCUIT BOARD, SU-12
			<CONNECTOR>
CN702	1-564-001-11	o	CONNECTOR, 2P, MALE

SU-13 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-982-11	o	PRINTED CIRCUIT BOARD, SU-13
			<CONNECTOR>
CN703	1-506-467-11	o	CONNECTOR, 2P

SU-14 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8265-952-A	o	MOUNTED CIRCUIT BOARD, SU-14 (TKUP)
			<CONNECTOR>
CN704	1-506-467-11	o	CONNECTOR, 2P

SY-12 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8265-975-A	o	MOUNTED CIRCUIT BOARD, SY-12
			<CAPACITOR>
C1	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C2	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C3	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C4	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C5	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C6	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C7	1-128-403-11	s	ELECT 47uF 20% 35V
C8	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C9	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C12	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C101	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C102	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C105	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C106	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C107	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C108	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C110	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C122	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C123	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C124	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C125	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C126	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C127	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C128	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C129	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C130	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C131	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C132	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C133	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C134	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C202	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C203	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C204	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V

(SY-12 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C207	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C209	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C210	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C212	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C213	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C214	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C216	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C224	1-128-235-11	s	ELECT 0.47uF 20% 50V
C302	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C305	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C306	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C307	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C309	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C310	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C311	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
			<CONNECTOR>
CN1	1-770-308-11	o	HOUSING, CONNECTOR
CN2	1-770-308-11	o	HOUSING, CONNECTOR
CN3	1-770-308-11	o	HOUSING, CONNECTOR
CN4	1-764-829-11	o	CONNECTOR, FPC 24P
CN5	1-764-829-11	o	CONNECTOR, FPC 24P
CN6	1-568-165-11	s	CONNECTOR, FPC 22P
CN7	1-695-393-31	o	PIN, CONNECTOR 32P
CN10	1-564-035-11	o	PIN, CONNECTOR 10P
CNI102	1-526-660-21	o	SOCKET, IC (DP) 32P
CNI209	1-526-659-00	o	SOCKET, IC (DP) 28P
			<DIODE>
D101	8-719-801-78	s	DIODE 1SS184
D201	8-719-801-78	s	DIODE 1SS184
			<FILTER>
FL201	1-236-740-21	s	FILTER, EMI
FL202	1-236-740-21	s	FILTER, EMI
FL203	1-236-740-21	s	FILTER, EMI
FL204	1-236-740-21	s	FILTER, EMI
FL205	1-236-740-21	s	FILTER, EMI
FL206	1-236-740-21	s	FILTER, EMI
FL207	1-236-740-21	s	FILTER, EMI
FL208	1-236-740-21	s	FILTER, EMI
FL209	1-236-740-21	s	FILTER, EMI
FL210	1-236-740-21	s	FILTER, EMI
FL211	1-236-740-21	s	FILTER, EMI
FL212	1-236-740-21	s	FILTER, EMI
FL213	1-236-740-21	s	FILTER, EMI
FL214	1-236-740-21	s	FILTER, EMI
FL215	1-236-740-21	s	FILTER, EMI
FL216	1-236-740-21	s	FILTER, EMI
FL217	1-236-740-21	s	FILTER, EMI
FL218	1-236-740-21	s	FILTER, EMI
FL219	1-236-740-21	s	FILTER, EMI
FL220	1-236-740-21	s	FILTER, EMI
FL221	1-236-740-21	s	FILTER, EMI
			<IC>
IC101	8-759-254-94	s	IC HD6413378F10
IC102	8-759-327-08	o	IC M27C1001-SY12PV1.00
IC103	8-759-926-11	s	IC SN74HC138ANS

(SY-12 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC104	8-759-926-11	s	IC SN74HC138ANS
IC105	8-759-148-14	s	IC UPD71055GB-3B4
IC106	8-759-148-14	s	IC UPD71055GB-3B4
IC107	8-759-926-49	s	IC SN74HC245ANS
IC108	8-759-926-49	s	IC SN74HC245ANS
IC109	8-759-926-48	s	IC SN74HC244ANS
IC110	8-759-044-65	s	IC M62352FP
IC111	8-759-518-38	s	IC PST572CMT-T1
IC201	8-759-926-18	s	IC SN74HC157ANS
IC202	8-759-926-18	s	IC SN74HC157ANS
IC203	8-759-053-58	s	IC IDT6116SA25S0
IC204	8-759-267-11	s	IC CXD8909Q
IC206	8-759-926-21	s	IC SN74HC161ANS
IC207	8-759-926-21	s	IC SN74HC161ANS
IC208	8-759-926-21	s	IC SN74HC161ANS
IC210	8-759-327-09	o	IC M27C512-SY12DV1.00
IC211	8-759-926-48	s	IC SN74HC244ANS
IC212	8-759-183-30	s	IC CXD8862Q
IC213	8-759-183-30	s	IC CXD8862Q
IC214	8-759-183-30	s	IC CXD8862Q
IC216	8-759-189-55	s	IC CXD8865R
IC301	8-759-925-74	s	IC SN74HC04ANS
IC302	8-759-925-74	s	IC SN74HC04ANS
IC303	8-759-925-76	s	IC SN74HC08ANS
IC304	8-759-925-85	s	IC SN74HC32ANS
IC305	8-759-925-72	s	IC SN74HC02ANS
IC306	8-759-926-05	s	IC SN74HC125ANS
IC307	8-759-925-90	s	IC SN74HC74ANS
IC308	8-759-925-90	s	IC SN74HC74ANS
IC309	8-759-925-80	s	IC SN74HC14ANS
IC310	8-759-927-46	s	IC SN74HC00ANS
IC311	8-759-927-29	s	IC SN74HCU04ANS
			<COIL>
L1	1-424-653-11	s	COIL, CHOKE 10UH
			<TRANSISTOR>
Q101	8-729-900-98	s	TRANSISTOR DTC143TK
			<RESISTOR>
R101	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R102	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R103	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R104	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R105	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R106	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R107	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R108	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R109	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R110	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R111	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R112	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R113	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R114	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R115	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R116	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R117	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R118	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R119	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W

(SY-12 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R120	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R121	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R122	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R123	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R124	1-216-025-91	s	METAL 100 5% 1/10W
R125	1-216-025-91	s	METAL 100 5% 1/10W
R126	1-216-025-91	s	METAL 100 5% 1/10W
R127	1-216-025-91	s	METAL 100 5% 1/10W
R128	1-216-025-91	s	METAL 100 5% 1/10W
R129	1-216-025-91	s	METAL 100 5% 1/10W
R130	1-216-025-91	s	METAL 100 5% 1/10W
R131	1-216-025-91	s	METAL 100 5% 1/10W
R132	1-216-025-91	s	METAL 100 5% 1/10W
R133	1-216-025-91	s	METAL 100 5% 1/10W
R134	1-216-025-91	s	METAL 100 5% 1/10W
R135	1-216-025-91	s	METAL 100 5% 1/10W
R136	1-216-025-91	s	METAL 100 5% 1/10W
R137	1-216-025-91	s	METAL 100 5% 1/10W
R138	1-216-025-91	s	METAL 100 5% 1/10W
R139	1-216-025-91	s	METAL 100 5% 1/10W
R140	1-216-025-91	s	METAL 100 5% 1/10W
R141	1-216-025-91	s	METAL 100 5% 1/10W
R142	1-216-025-91	s	METAL 100 5% 1/10W
R143	1-216-025-91	s	METAL 100 5% 1/10W
R144	1-216-025-91	s	METAL 100 5% 1/10W
R145	1-216-025-91	s	METAL 100 5% 1/10W
R146	1-216-025-91	s	METAL 100 5% 1/10W
R147	1-216-025-91	s	METAL 100 5% 1/10W
R148	1-216-025-91	s	METAL 100 5% 1/10W
R149	1-216-025-91	s	METAL 100 5% 1/10W
R150	1-216-025-91	s	METAL 100 5% 1/10W
R151	1-216-025-91	s	METAL 100 5% 1/10W
R152	1-216-025-91	s	METAL 100 5% 1/10W
R153	1-216-025-91	s	METAL 100 5% 1/10W
R154	1-216-025-91	s	METAL 100 5% 1/10W
R155	1-216-025-91	s	METAL 100 5% 1/10W
R156	1-216-025-91	s	METAL 100 5% 1/10W
R157	1-216-025-91	s	METAL 100 5% 1/10W
R158	1-216-025-91	s	METAL 100 5% 1/10W
R159	1-216-025-91	s	METAL 100 5% 1/10W
R160	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R161	1-216-025-91	s	METAL 100 5% 1/10W
R201	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R202	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R203	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R205	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R206	1-216-025-91	s	METAL 100 5% 1/10W
R207	1-216-025-91	s	METAL 100 5% 1/10W
R208	1-216-025-91	s	METAL 100 5% 1/10W
R209	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R210	1-216-009-00	s	METAL, CHIP 22 5% 1/10W
R211	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R222	1-216-025-91	s	METAL 100 5% 1/10W
R223	1-216-025-91	s	METAL 100 5% 1/10W
R224	1-216-025-91	s	METAL 100 5% 1/10W
R225	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R226	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R227	1-216-025-91	s	METAL 100 5% 1/10W
R228	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R229	1-216-025-91	s	METAL 100 5% 1/10W

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(SY-12 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R230	1-216-025-91	s	METAL 100 5% 1/10W
			<SWITCH>
S101	1-570-909-11	s	SWITCH, PUSH
			<THERMISTOR>
TH101	1-810-075-11	s	THERMISTOR, NTC
			<CRYSTAL>
X101	1-760-150-21	s	RESONATOR, CERAMIC 20MHz
X201	1-579-906-21	s	RESONATOR, CERAMIC 24MHz
X202	1-760-607-11	s	RESONATOR, CERAMIC 14MHz

SWITCHING REGULATOR

Ref. No. or Q'ty	Part No.	SP	Description
1pc	⚠1-413-994-11	o	SWITCHING REGULATOR
			MISCELLANEOUS
			**********
CN7	⚠9-909-685-01	s	CONNECTOR ASSY 2P
FAN1	9-909-686-01	s	MOTOR, DC FAN
IN1	⚠1-580-375-31	s	INLET, 3P
SW1	⚠9-909-684-01	s	SWITCH
			PR-930038 BOARD
			**********
1pc	⚠9-909-749-01	o	PRINTED CIRCUIT BOARD, PR-930038
			<CAPACITOR>
C27	⚠9-909-727-01	s	CERAMIC 1000p 250V
C28	9-909-728-01	s	ELECT 330uF 400V
C29	9-909-730-01	s	CERAMIC 2200p 1KV
C30	9-909-731-01	s	CERAMIC 100p 2KV
C31	9-909-732-01	s	CERAMIC 330p 2KV
C32	1-136-165-00	s	FILM 0.1uF 10% 50V
C47	1-128-571-11	s	ELECT 56uF 20% 50V
C51-1	9-909-738-01	s	CERAMIC 1500p 1KV
C51-2	9-909-738-01	s	CERAMIC 1500p 1KV
C53-1	1-104-687-11	s	ELECT 2700uF 20% 35V
C53-2	1-104-687-11	s	ELECT 2700uF 20% 35V
C54	1-104-687-11	s	ELECT 2700uF 20% 35V
C55	1-136-165-00	s	FILM 0.1uF 10% 50V
C58	1-136-165-00	s	FILM 0.1uF 10% 50V
C65	1-128-585-11	s	ELECT 270uF 20% 16V
C69	1-128-585-11	s	ELECT 270uF 20% 16V
C111	9-909-745-01	s	FILM 0.68uF 630V
C112	⚠9-909-746-01	s	FILM 0.22uF 250V
C113	1-128-376-11	s	ELECT 220uF 20% 25V
C114	1-136-165-00	s	FILM 0.1uF 10% 50V
			<CIRCUIT MODULE>
CM111	⚠9-909-708-01	s	CIRCUIT MODULE

(SWITCHING REGULATOR)

Ref. No. or Q'ty	Part No.	SP	Description
			<CONNECTOR>
CN3	1-564-035-11	s	PIN CONNECTOR, 10P
CN4	1-564-607-11	s	PIN CONNECTOR, 6P
CN8	⚠9-909-687-01	s	CONNECTOR ASSY 2P
CN12	9-909-688-01	s	CONNECTOR 5P
CN14	9-909-689-01	s	CONNECTOR 4P
CN16	9-909-690-01	s	CONNECTOR 2P
			<DIODE>
D31	8-719-510-26	s	DIODE D1NL20
D32	9-909-703-01	s	DIODE ERB37-10L
D41	8-719-028-45	s	DIODE D2L20U
D42	8-719-510-26	s	DIODE D1NL20
D51	9-909-704-01	s	DIODE S20LC20U
D111	8-719-510-02	s	DIODE D1NS4
D112	8-719-510-02	s	DIODE D1NS4
D113	9-909-705-01	s	DIODE D1NL60
RF21	8-719-510-71	s	DIODE D10XB60
RF111	9-909-699-01	s	DIODE S20L60
TH21	9-909-698-01	s	TRIAC AC12FGM
			<COIL>
L51	9-909-691-01	s	COIL, CHOKE
L53	9-909-692-01	s	BEAD, CORE
L54	9-909-693-01	s	BEAD, CORE
L111	⚠9-909-695-01	s	COIL, CHOKE
L112	9-909-696-01	s	BEAD, CORE
L113	9-909-696-01	s	BEAD, CORE
			<TRANSISTOR>
Q21	9-909-700-01	s	TRANSISTOR 2SK1796
Q111	9-903-339-01	s	TRANSISTOR 2SK1016
Q112	9-903-339-01	s	TRANSISTOR 2SK1016
			<RESISTOR & VARIABLE RESISTOR>
R29-1	9-909-709-01	s	METAL 100K 3W
R29-2	9-909-709-01	s	METAL 100K 3W
R30	9-909-711-01	s	METAL 39 2W
R31	9-909-712-01	s	METAL 10 3W
R32	1-249-413-11	s	CARBON 470 5% 1/4W
R33-1	⚠9-909-713-01	s	RES, THERMAL CUTOFF 33 130°C
R33-2	⚠9-909-713-01	s	RES, THERMAL CUTOFF 33 130°C
R38	9-909-715-01	s	METAL 0.15 5W
R47	9-909-716-01	s	CARBON 15 1/2W
R51	9-909-717-01	s	METAL 22
R94	9-909-718-01	s	CARBON 8.2 1/2W
R111	9-909-719-01	s	METAL 10 1W
R112	9-909-719-01	s	METAL 10 1W
R113	9-909-721-01	s	METAL 0.1 5W
R114	9-909-722-01	s	METAL 0.15 2W
R115	1-249-399-11	s	CARBON 33 5% 1/4W
R116	9-909-723-01	s	CARBON 820K 1/2W
R117	1-249-418-11	s	CARBON 1.2K 5% 1/4W
R118	9-909-724-01	s	CARBON 22K 1/2W
R119	1-249-410-11	s	CARBON 270 5% 1/4W
R120	9-909-725-01	s	CARBON 220K 2W

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Ne les remplacer que par une piece portant le numero specifie.

(SWITCHING REGULATOR)

Ref. No. or Q'ty	Part No.	SP	Description
RV111	9-909-726-01	s	RES, VAR 2K 0.5W
			<POSISTOR>
RT71	9-909-706-01	s	POSISTOR
			<VARISTOR>
SA111	9-909-707-01	s	VARISTOR
			<TRANSFORMER>
T1	⚠9-909-694-01	s	TRANSFORMER
	PR-930039 BOARD		
	**********		
1pc	⚠9-909-752-01	o	PRINTED CIRCUIT BOARD, PR-930039
4pcs	9-995-335-01	o	CLIP, FUSE
			<CAPACITOR>
C20	⚠1-136-193-11	s	FILM 0.47uF 250V
C21	⚠1-136-193-11	s	FILM 0.47uF 250V
C22	⚠1-136-193-11	s	FILM 0.47uF 250V
C23	⚠9-995-329-01	s	CERAMIC 2200p 250V
C24	⚠9-995-329-01	s	CERAMIC 2200p 250V
			<CONNECTOR>
CN1	⚠1-564-321-11	o	PIN CONNECTOR, 2P
CN2	⚠1-564-321-11	o	PIN CONNECTOR, 2P
			<FUSE>
F1	⚠1-576-233-41	s	FUSE 6.3A 250V
F2	⚠1-576-233-41	s	FUSE 6.3A 250V
			<COIL>
L21	⚠9-909-750-01	s	COIL, CHOKE
L22	⚠9-909-750-01	s	COIL, CHOKE
			<RESISTOR>
R21	9-994-152-01	o	CARBON 220K
	PR-930040 BOARD		
	**********		
1pc	⚠9-909-783-01	o	PRINTED CIRCUIT BOARD, PR-930040
			<CAPACITOR>
C52-1	9-909-771-01	s	CERAMIC 1000p 1KV
C52-2	9-909-771-01	s	CERAMIC 1000p 1KV
C56	1-128-386-11	s	ELECT 1000uF 20% 35V
C57	9-909-772-01	s	ELECT 560uF 35V
C61	1-128-386-11	s	ELECT 1000uF 20% 35V
C62	1-128-386-11	s	ELECT 1000uF 20% 35V
C63	9-909-774-01	s	CERAMIC 680p 1KV
C64-1	1-128-142-11	s	ELECT 1500uF 20% 25V
C64-2	1-128-142-11	s	ELECT 1500uF 20% 25V
C67	9-909-776-01	s	ELECT 1800uF 10V
C68	9-909-776-01	s	ELECT 1800uF 10V
C70	1-136-161-00	s	FILM 0.047uF 5% 50V
C79	1-128-376-11	s	ELECT 220uF 20% 25V

(SWITCHING REGULATOR)

Ref. No. or Q'ty	Part No.	SP	Description
			<CONNECTOR>
CN11	9-909-753-01	o	CONNECTOR 5P
CN13	9-909-754-01	o	CONNECTOR 4P
CN15	9-909-755-01	o	CONNECTOR 2P
CN20	9-909-756-01	o	CONNECTOR 2P
			<DIODE>
D52	8-719-031-79	s	DIODE D5SC4M
D72	8-719-018-83	s	DIODE D2S4M
D73	8-719-912-20	s	DIODE 1SS120
D75	8-719-912-20	s	DIODE 1SS120
D77	8-719-018-83	s	DIODE D2S4M
D78	8-719-912-20	s	DIODE 1SS120
D79	8-719-912-20	s	DIODE 1SS120
D80	8-719-510-02	s	DIODE D1NS4
ZD71	8-719-110-04	s	DIODE RD7.5ESB3
ZD73	8-719-109-85	s	DIODE RD5.1ESB2
ZD74	8-719-110-36	s	DIODE RD13ESB2
TH71	8-719-108-18	s	THYRISTOR 5P6M
			<COIL>
L52	9-909-757-01	s	COIL, CHOKE
L61	9-909-758-01	s	COIL, CHOKE
L62	9-909-758-01	s	COIL, CHOKE
L63	9-909-760-01	s	COIL, CHOKE
L64	9-909-761-01	s	COIL, CHOKE
			<IC & TRANSISTOR>
M61	9-909-762-01	s	IC HLD05000M
M62	9-909-763-01	s	IC HLD00006M
M63	9-909-764-01	s	IC HLE12003M
Q72	8-729-265-52	s	TRANSISTOR 2SC2655-Y
			<RESISTOR>
R53	9-909-765-01	s	METAL 22 2W
R61	9-909-766-01	s	METAL 150 1W
R62	1-249-398-11	s	CARBON 27 5% 1/4W
R63-1	9-909-767-01	s	METAL 0.15 2W
R63-2	9-909-767-01	s	METAL 0.15 2W
R64-1	9-901-950-01	s	METAL 0.05 2W
R64-2	9-901-950-01	s	METAL 0.05 2W
R65	9-901-949-01	s	METAL 0.22 5W
R66	1-249-395-11	s	CARBON 15 5% 1/4W
R67	1-249-417-11	s	CARBON 1K 5% 1/4W
R68	1-247-827-11	s	CARBON 680 5% 1/4W
R81	9-909-769-01	s	METAL 0.47 5W
R82	1-247-847-11	s	CARBON 4.7K 5% 1/4W
R83	1-249-397-11	s	CARBON 22 5% 1/4W
R84	1-249-404-00	s	CARBON 82 5% 1/4W
R87	9-909-770-01	s	CARBON 47K 5% 1/4W
R88	1-249-401-11	s	CARBON 47 5% 1/4W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

(SWITCHING REGULATOR)

Ref. No. or Q'ty	Part No.	SP	Description
	PR-930041 BOARD		
	**********		
1pc	⚠9-909-807-01	o	PRINTED CIRCUIT BOARD, PR-930041
			<CAPACITOR>
C41	1-126-233-11	s	ELECT 22uF 20% 50V
C42	1-136-165-00	s	FILM 0.1uF 5% 50V
C43	1-126-101-11	s	ELECT 100uF 20% 16V
C44	1-136-161-00	s	FILM 0.047uF 5% 50V
C45	1-136-157-00	s	FILM 0.022uF 5% 50V
C46	1-136-165-00	s	FILM 0.1uF 5% 50V
C48	1-128-571-11	s	ELECT 56uF 20% 50V
C49	1-126-375-11	s	ELECT 100uF 20% 25V
C50	1-104-865-11	s	ELECT 10uF 20% 25V
C71	1-104-899-11	s	ELECT 10uF 20% 50V
C73	1-126-803-11	s	ELECT 47uF 20% 25V
C75	1-136-161-00	s	FILM 0.047uF 5% 50V
C80	1-136-165-00	s	FILM 0.1uF 5% 50V
C90	1-126-801-11	s	ELECT 1uF 20% 50V
C91	1-104-781-51	s	ELECT 22uF 20% 25V
			<CONNECTOR>
CN17	9-909-784-01	o	CONNECTOR 10P
CN18	9-909-785-01	o	CONNECTOR 12P
			<CIRCUIT MODULE>
CM41	⚠9-901-943-01	s	CIRCUIT MODULE RHA1B-1
			<DIODE>
D44	8-719-510-26	s	DIODE D1NL20
D45	8-710-912-20	s	DIODE 1SS120
D71	8-719-912-20	s	DIODE 1SS120
D76	8-719-912-20	s	DIODE 1SS120
ZD41	8-719-902-91	s	DIODE HZ20-1
ZD72	8-719-927-42	s	DIODE HZ27-2
ZD75	8-719-110-85	s	DIODE RD36ESB4
ZD76	8-719-951-13	s	DIODE HZ5CLL
PC41	⚠8-749-923-50	s	PHOTOCOUPLER PC111YS
PC42	⚠8-749-923-50	s	PHOTOCOUPLER PC111YS
TH41	8-729-101-31	s	THYRISTOR N13T1
			<IC>
M71	8-759-420-19	s	IC AN1431T
M72	1-807-117-11	s	IC TA75358P
M73	8-759-420-19	s	IC AN1431T
			<TRANSISTOR>
Q22	8-729-194-57	s	TRANSISTOR 2SC945-P
Q41	9-909-786-01	s	TRANSISTOR 2SC3456M
Q42	8-729-194-57	s	TRANSISTOR 2SC945-P
Q43	8-729-194-57	s	TRANSISTOR 2SC945-P
Q71	1-806-310-11	s	TRANSISTOR 2SA673
			<RESISTOR>
R41-1	9-909-787-01	s	CARBON 150K
R41-2	9-909-787-01	s	CARBON 150K
R42	9-909-788-01	s	CARBON 47K 1/2W
R43	1-247-807-11	s	CARBON 100 5% 1/4W
R44	1-249-417-11	s	CARBON 1K 5% 1/4W

(SWITCHING REGULATOR)

Ref. No. or Q'ty	Part No.	SP	Description
R45	1-247-855-11	s	CARBON 10K 5% 1/4W
R46	1-249-417-11	s	CARBON 1K 5% 1/4W
R48-1	9-909-789-01	s	CARBON 100K
R48-2	9-909-789-01	s	CARBON 100K
R49-1	9-909-790-01	s	METAL 4.7K
R49-2	9-909-791-01	s	RES, FUSIBLE 2K 1/2W
R50	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R69	1-247-871-11	s	CARBON 47K 5% 1/4W
R70	1-249-417-11	s	CARBON 1K 5% 1/4W
R71	9-909-792-01	s	CARBON 820 1/2W
R72	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R74	1-249-412-11	s	CARBON 390 5% 1/4W
R75	1-247-825-11	s	CARBON 560 5% 1/4W
R76	1-247-855-11	s	CARBON 10K 5% 1/4W
R77	1-249-418-11	s	CARBON 1.2K 5% 1/4W
R78	1-247-855-11	s	CARBON 10K 5% 1/4W
R79	1-247-855-11	s	CARBON 10K 5% 1/4W
R80	1-247-811-31	s	CARBON 150 5% 1/4W
R86	1-249-418-11	s	CARBON 1.2K 5% 1/4W
R85	1-247-811-31	s	CARBON 150 5% 1/4W
R90	1-249-409-11	s	CARBON 220 5% 1/4W
R91	1-247-871-11	s	CARBON 47K 5% 1/4W
R92	1-247-855-11	s	CARBON 10K 5% 1/4W
R93	1-249-433-11	s	CARBON 22K 5% 1/4W
R95	9-909-793-01	s	CARBON 220K
			<VARIABLE RESISTOR>
RV41	9-909-794-01	s	RES, VAR 5K
RV71	9-909-795-01	s	RES, VAR 200
RV72	9-909-796-01	s	RES, VAR 2K

MISCELLANEOUS

Ref. No. or Q'ty	Part No.	SP	Description
1pc	⚠1-413-994-11	o	SWITCHING REGULATOR
1pc	1-467-987-11	s	PANEL UNIT, LIQUID CRYSTAL IND
1pc	1-500-174-11	s	HEAD, THERMAL
1pc	1-541-965-11	s	MOTOR, STEPPING
1pc	1-698-549-11	s	FAN, DC
1pc	1-769-389-11	s	WIRE, (FLAT TYPE) (32 CORE)
1pc	1-769-534-11	s	WIRE, (FLAT TYPE) (24 CORE)
1pc	1-769-535-11	s	WIRE, (FLAT TYPE) (15 CORE)
1pc	1-954-208-11	o	HARNESS, SUB (HDRBN)
1pc	1-954-210-11	o	HARNESS, SUB (HD)
1pc	1-954-211-11	o	HARNESS, SUB (SY)

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Replace only with part number specified.

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PACKING MATERIALS & SUPPLIED ACCESSORIES

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8278-094-D	s	ASSY, SUPPLY, TRAY(A) [for EK]
1pc	A-8278-095-E	s	ASSY, SUPPLY, TRAY(L) [for UC]
1pc	A-8278-098-B	s	ASSY, RIBBON HOLDER
1pc	⚠1-590-910-11	s	CORD SET, POWER [for EK]
1pc	⚠1-534-827-14	s	CORD, POWER [for UC]
1pc	3-683-192-01	s	TRAY, PARER EJECT
1pc	3-686-152-01	o	CUSHION, TOP
1pc	3-686-153-01	o	CUSHION, BOTTOM
1pc	3-686-154-01	o	INDIVIDUAL CARTON
1pc	3-704-355-01	o	SHEET (STADARD), PROTECTION
1pc	3-798-039-11	s	MANUAL, INSTRUCTION [for EK]
1pc	⚠3-798-039-21	s	MANUAL, INSTRUCTION [for UC]

HARDWARE LIST

Part No.	SP	Description
7-624-105-04	s	STOP RING 2.3, TYPE -E
7-624-106-04	s	STOP RING 3.0, TYPE -E
7-624-109-04	s	STOP RING 5.0, TYPE -E
7-627-554-58	s	SCREW +P 2X2.8
7-628-253-95	s	SCREW +PS 2.6X4
7-682-646-09	s	SCREW +PS 3X5
7-682-951-01	s	SCREW +PSW 3X14
7-683-238-01	s	SET-SCT, HEX. 3X4 FLAT POINT
7-685-645-79	s	SCREW +BVTP 3X6 TYPE2 N-S
7-685-648-79	s	SCREW +BVTP 3X12 TYPE2 N-S
7-685-863-01	s	SCREW +BVTT 2.6X8(S)
7-685-871-01	s	SCREW +BVTT 3X6(S)
7-685-872-01	s	SCREW +BVTT 3X8(S)
7-685-874-01	s	SCREW +BVTT 3X12(S)
7-685-877-01	s	SCREW +BVTT 3X20(S)
7-685-878-01	s	SCREW +BVTT 3X25(S)

SECTION 7
MECHANICAL OPERATION

7-1. MOTOR

motor name	main function
1. Capstan drive motor (stepping motor)	· Drive of capstan roller · Drive of delivery roller
2. Head drive motor (DC motor)	· UP/DOWN of head 1) Home position 2) Ribbon forward & printing paper forward position 3) Printing position · Drive of pinch roller 1) Pressure 2) Release · Drive of delivery pinch roller 1) Pressure 2) Release
3. Ribbon take-up motor (DC motor)	· Drive of ribbon rewind reel (take-up)
4. Ribbon supply motor (DC motor)	· Drive of ribbon rewind reel (Supply)
5. Feed paper motor (DC motor)	· Drive of feed roller · Drive of pick-up roller · Drive of bar code detection gear
6. Feed lever motor (DC motor)	· Drive of feed lever 1) Home position 2) Printing position 3) Feed paper position · Control of bar code detection 1) Bar code detection possible 2) Bar code detection impossible · Drive of separation roller 1) Pressure 2) Release

7-2. TIMING OF MECHANICAL OPERATION

Mechanical operation separates thermal head UP/DOWN operation for four positions. The following three operations are performed one motor (Head drive motor) by assembling cam composition and link composition. Feed lever operation and control of bar code detection gear are performed by another motor (Feed lever motor).
Following is the timing table.

Head drive motor

Position	0	1	2	3
Operation	Home position	Beginning detection of ribbon & paper feed	Print paper forward rewind, delivery paper	Printing
Head	UP	MIDDLE	MIDDLE	DOWN
Capstan	OFF	OFF	ON	ON
Delivery roller	ON	ON	OFF	OFF

Feed lever motor

Position	0	1	2
Operation	Home position	Except feed paper	Feed paper
Feed lever	DOWN	MIDDLE	UP
Separation roller	OFF	ON	ON
Bar code detection	Impossible	Possible	Impossible

Each element operation timing by mechanical operation

Element / Operation	Head position	Head	Capstan	Delivery roller	Arm position	Feed lever	Separation roller	Bar code detection
Home	0	UP	OFF	ON	0	DOWN	OFF	Impossible
Bar code detection	1	MIDDLE	OFF	ON	1	MIDDLE	ON	Possible
Beginning detection of ribbon and paper feed	1	MIDDLE	OFF	ON	2	UP	ON	Impossible
Pinch roller pressure	2	MIDDLE	ON	OFF	1	MIDDLE	ON	Possible
Printing	3	DOWN	ON	OFF	1	MIDDLE	ON	Possible
Printing paper rewind	2	MIDDLE	ON	OFF	1	MIDDLE	ON	Possible
Delivery paper	1	MIDDLE	OFF	ON	1	MIDDLE	ON	Possible
Printing end	0	UP	OFF	ON	0	DOWN	OFF	Impossible

Thermal head :
UP→Thermal head is separated largely from platen.
MIDDLE→Thermal head is separated little from platen.
DOWN→Thermal head is pressed to platen.

Capstan :
ON→Pinch roller is pressed to capstan.
OFF→Pinch roller is separated from capstan.

Delivery roller:
ON→Delivery pinch roller is pressed to delivery roller.
OFF→Delivery pinch roller is separated from delivery roller.

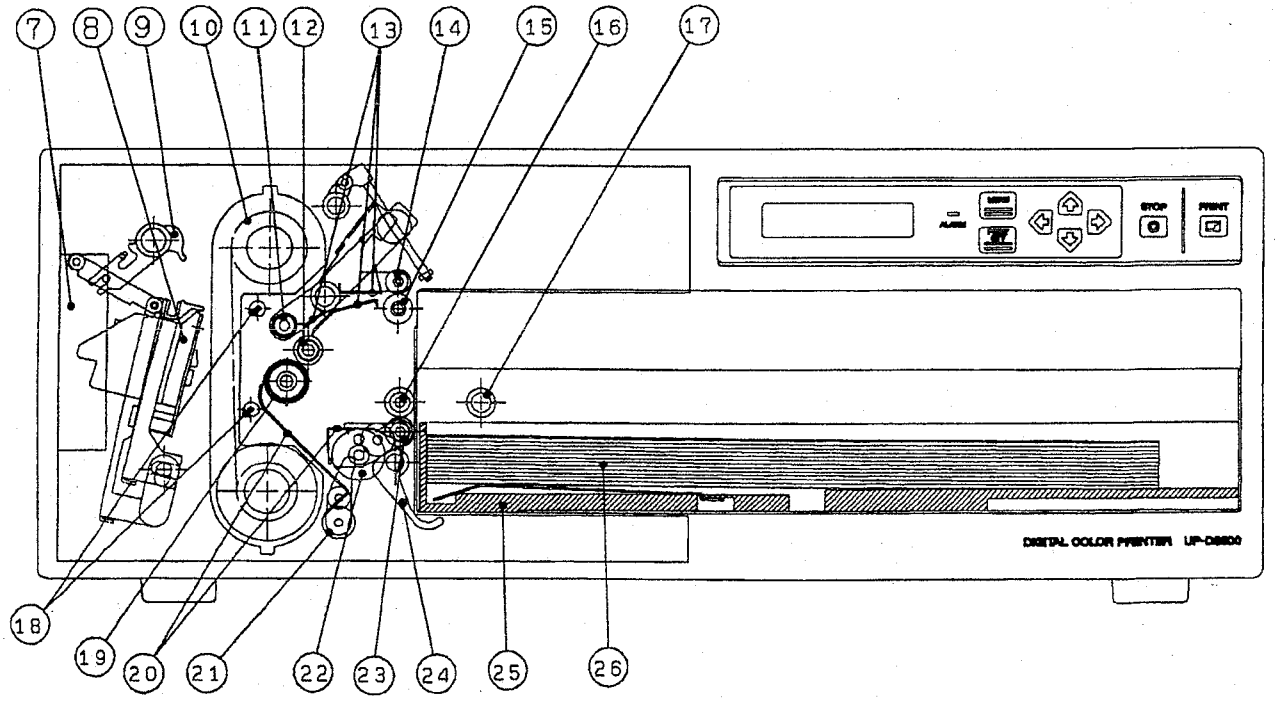
Feed lever :
UP→Printing paper is pressed to pick-up roller.
MIDDLE→Printing paper is separated from pick-up roller, but feed tray can not be removed.
DOWN→Feed tray can be removed.

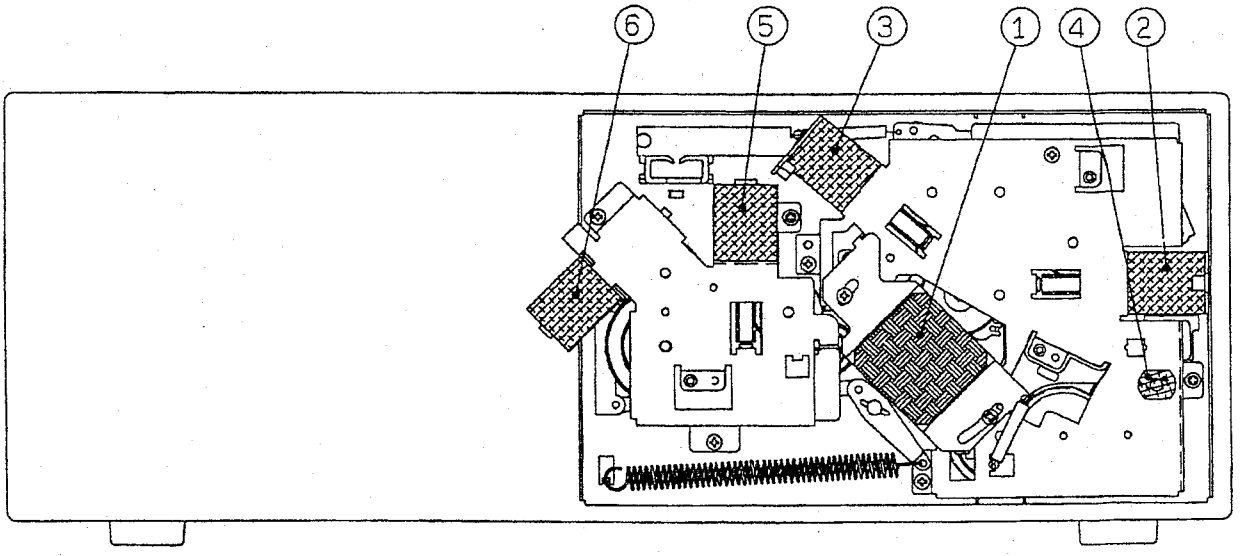
Separation roller :
ON→Separation roller is pressed to feed roller.
OFF→Separation roller is separated from feed roller.

Bar code detection
Possible→Detection gear is engaged bar code ring.

7-3. MECHANICAL SECTION OUTLINE

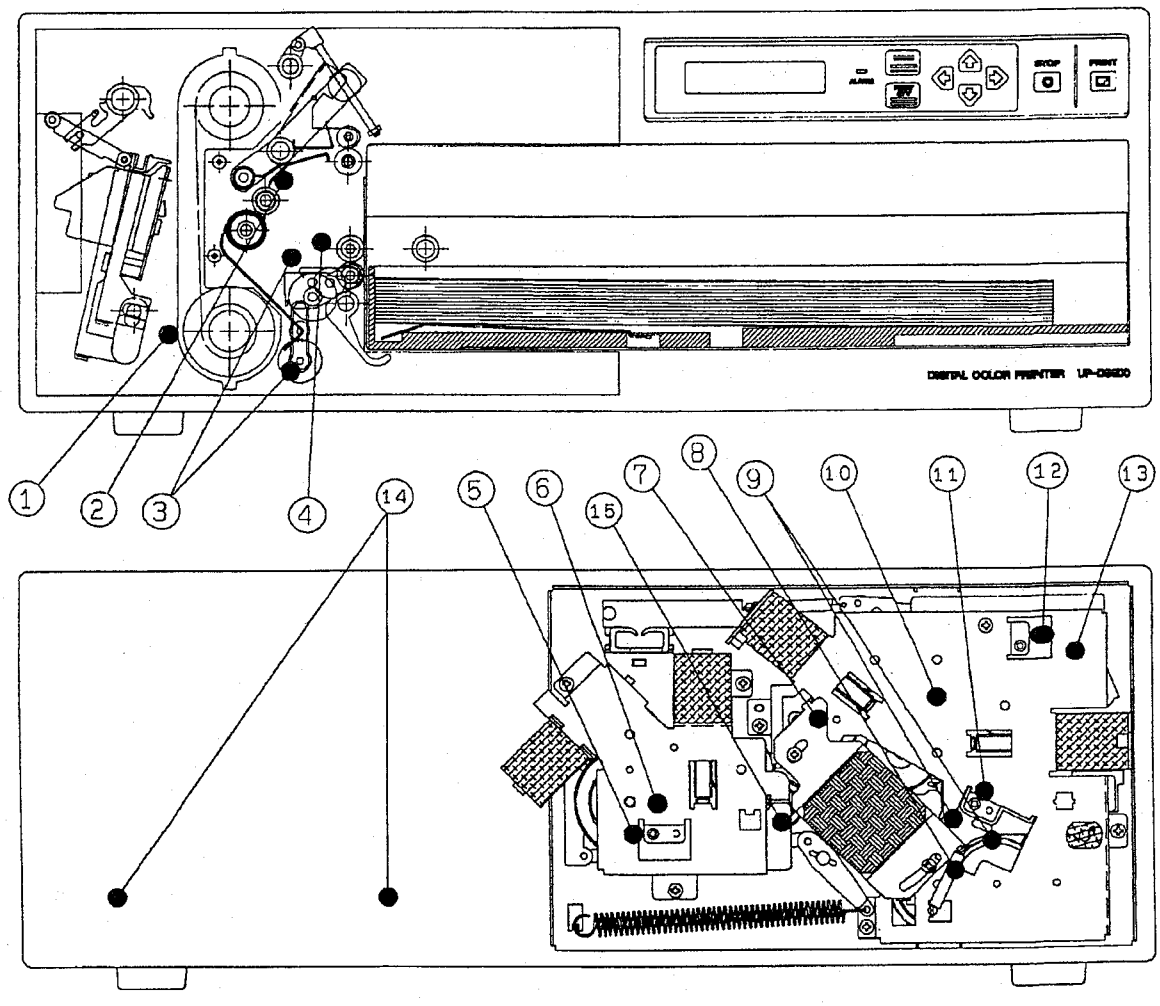
No.	Name	No.	Name	No.	Name
1	Capstan drive motor	10	Ink ribbon	19	Platen
2	Head drive motor	11	Pinch roller	20	Feed guide
3	Ribbon take-up motor	12	Capstan	21	Bar code detection gear
4	Ribbon supply motor	13	Delivery guide	22	Torque limiter for separation roller
5	Feed motor	14	Delivery pinch roller	23	Separation roller
6	Feed lever motor	15	Delivery roller	24	Feed lever
7	Fan for head cooling	16	Feed roller	25	Feed tray
8	Thermal head	17	Pick-up roller	26	Printing paper
9	Head drive cam	18	Ribbon guide roller		





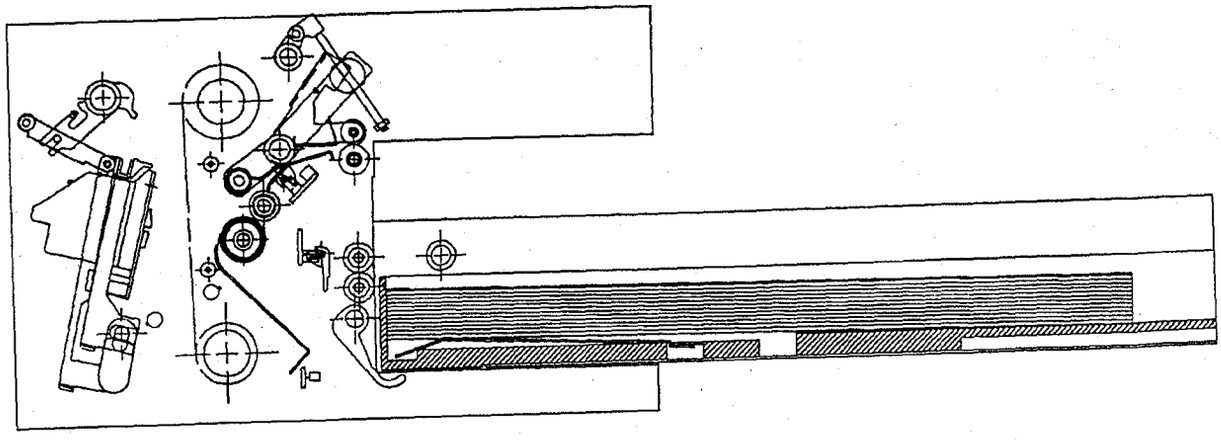
7-4. POSITION AND FUNCTION FOR SENSOR

No.	Name	Kind of sensor	Function
1	Bar code sensor	Reflector	Detect the kind of ribbon
2	Paper edge sensor	Mechanical shutter & interrupter	Beginning detection of printing paper, jamming detection
3	OHP sensor	Transmission	Discrimination of OHP
4	PASS 0 sensor	Mechanical shutter & interrupter	Detection of feed paper, jamming detection
5	Lever home sensor	Interrupter	Home detection of feed lever
6	Lever position sensor	Interrupter	Position detection of feed lever
7	PASS 1 sensor	Interrupter	Abnormal detection of stepping motor
8	Supply FG sensor	Interrupter	Detection of ribbon rotation, sending quantity and diameter
9	Ribbon code sensor	Transmission	Beginning detection of ribbon
10	Take-up FG sensor	Interrupter	Detection of ribbon rotation, sending quantity and diameter
11	Cassette eject sensor	Interrupter	Detect whether ribbon cassette is set or not
12	Head home sensor	Interrupter	Home detection of head
13	Head position sensor	Interrupter	Head position detection
14	Paper size sensor	Interrupter	Discrimination of paper size
15	Load FG sensor	Interrupter	Rotation detection of feed roller



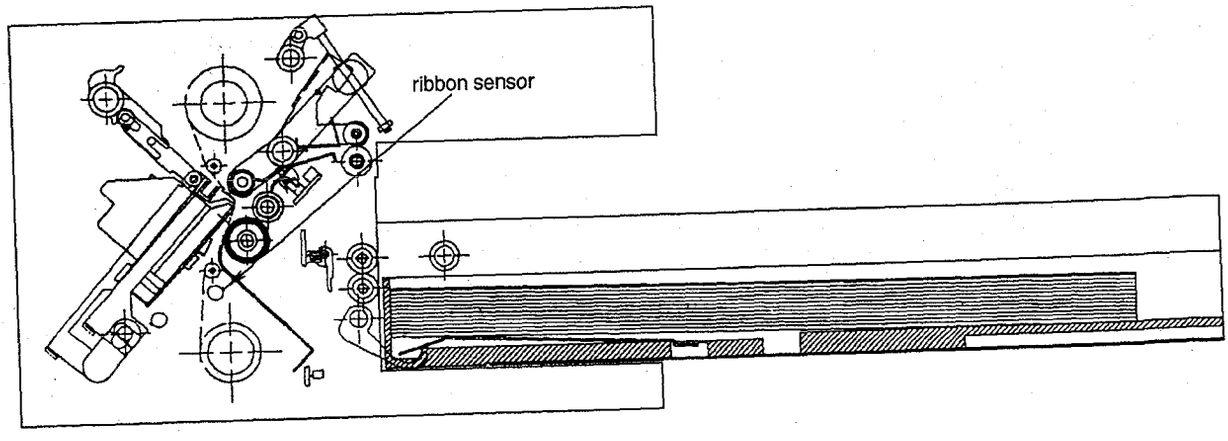
7-5. PRINTING OPERATION DESCRIPTION

Fig. (1)



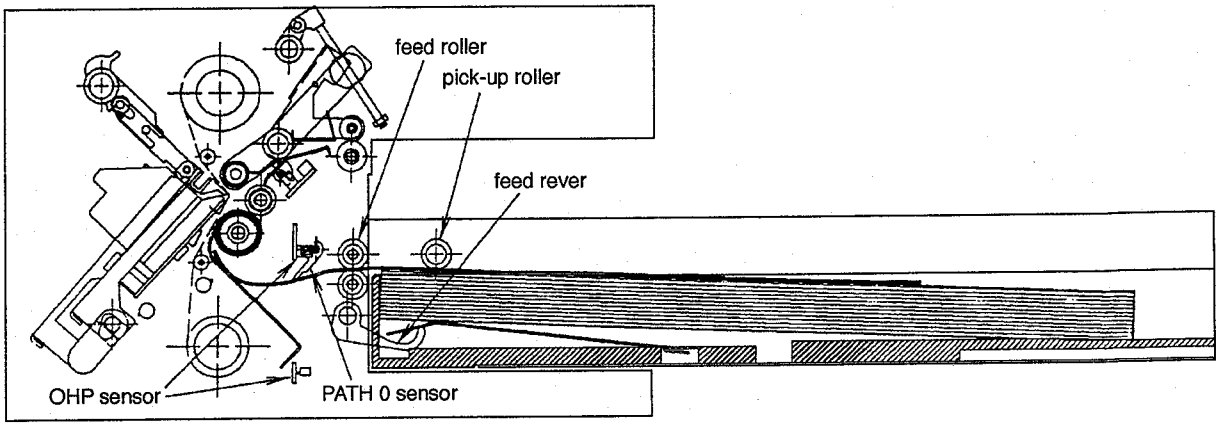
1. Initial condition
   Feed tray and ribbon cassette can be removed freely.
2. Depress the print key.
   Starting indication of printing operation.

Fig. (2)



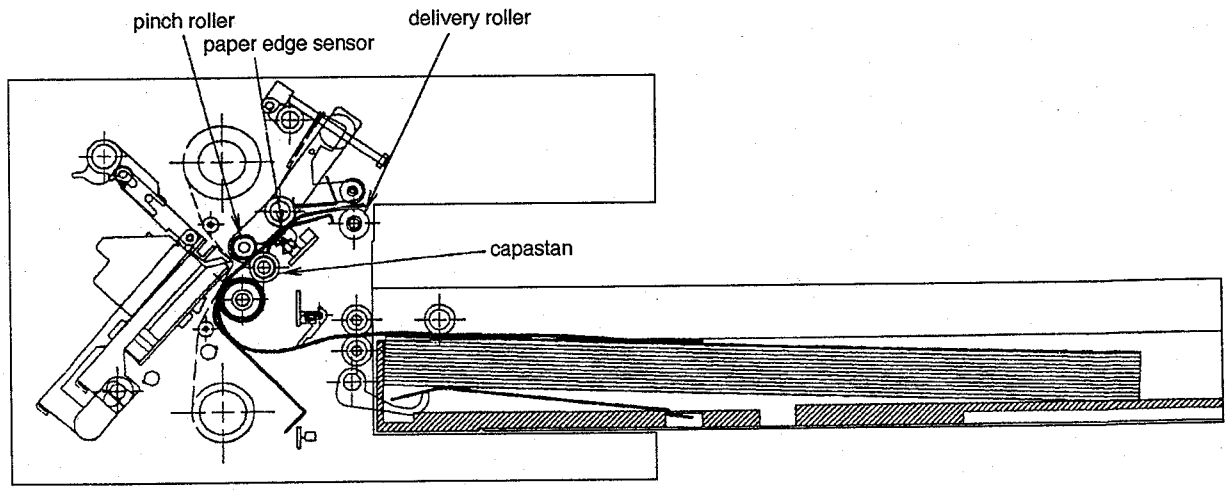
3. Search for the beginning of the yellow ribbon
   - Feed lever and head are set to MIDDLE position. Ribbon cassette and feed tray can not be removed.
   - Ribbon take-up motor is rotated, ribbon is rewound, if starting mark comes, count of ribbon quantity is set to 100.
   - Ribbon diameter is calculated from take-up and supply FG sensor count quantity of distance between two ribbon codes before yellow ribbon.
   - If ribbon is stopped before coming two ribbon code, it is judged ribbon end.
   - Ribbon is stopped.

Fig. (3)



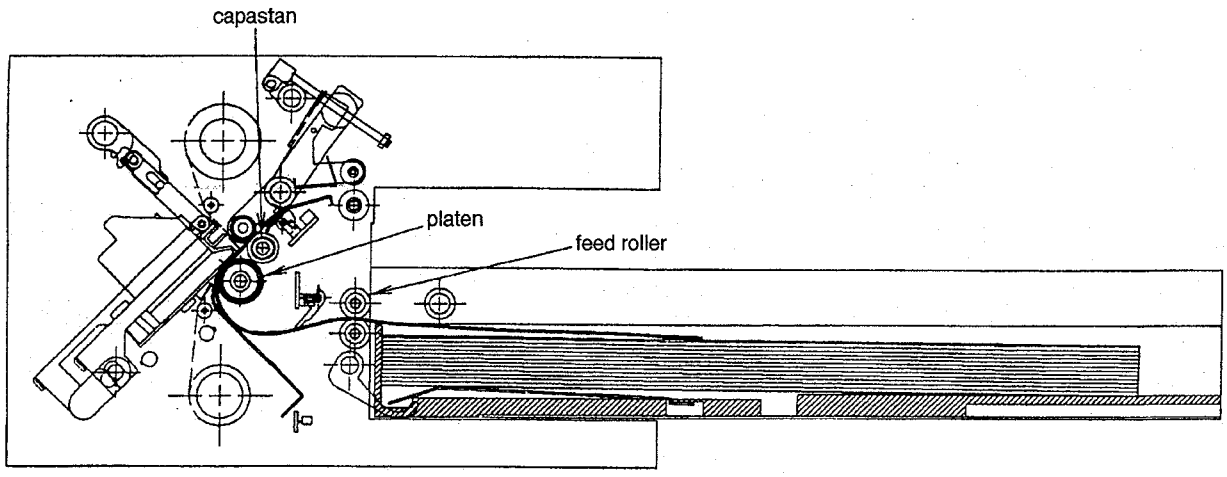
4. Feed paper operation
   - Feed lever is positioned to UP. Pick-up roller and feed roller are rotated, printing paper is transported from feed tray.
   - When paper passes the PASS 0 sensor, whether OHP or ordinary paper is judged by transmitting or not the OHP sensor.

Fig. (4)



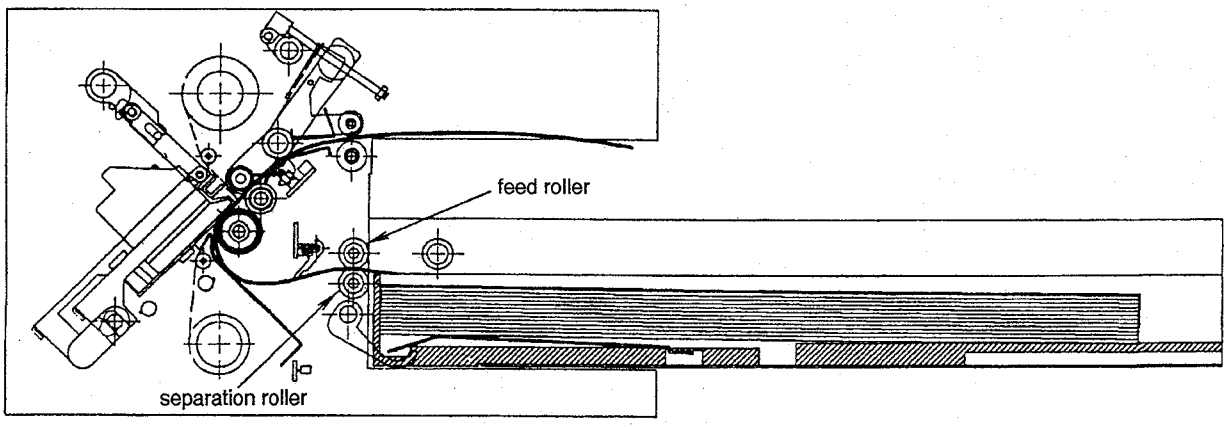
5. Loading operation
   - In case, to print the ordinary paper, paper feed is performed by turning and operating the ribbon take-up motor.
   - When printing the OHP, paper feed is performed by supply motor while it presses the ribbon.
   - When printing paper comes to paper edge sensor, ribbon take-up motor is stopped, and then printing paper is sent by feed motor to delivery roller. And the ribbon is more sent 10mm, and feed roller is stopped.
   - The slacken of the ribbon is taken by supply motor, printing paper is transported 10 and a few mm by rotating little delivery roller, bend of printing paper is corrected.
   - Pinch roller is pressed to capstan.

Fig. (5)



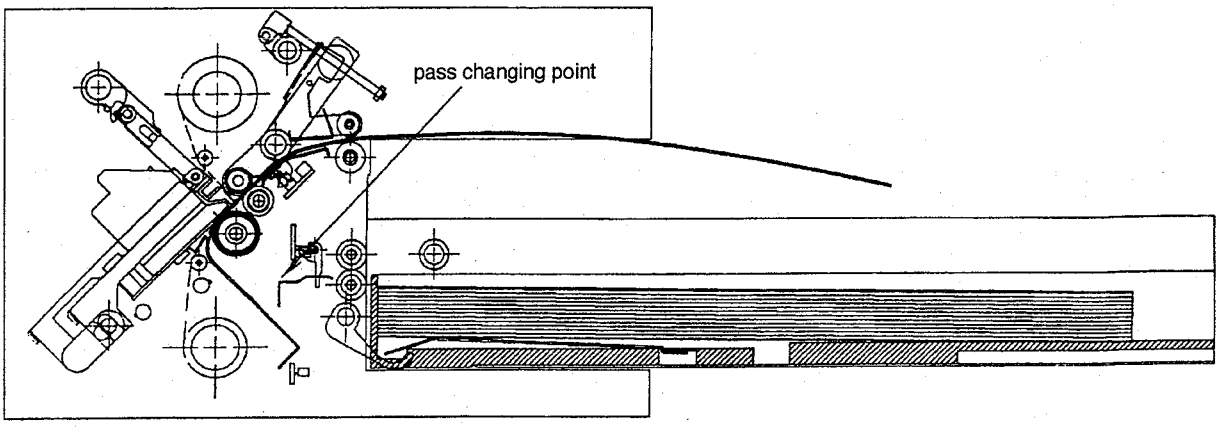
6. Beginning detection of printing paper
   - In case ordinary paper, as paper feed is performed while ribbon is sent, ribbon is rewound to the position where after beginnig detection of ribbon. In case the OHP, printing paper is rewound without ribbon rewind.
   - At that time, capstan and feed roller are rotated reversely.
     Printing paper passes through paper edge sensor, and is rewound to just before removing the capstan.
   - Ribbon is sent to true printing position from ribbon code.
   - While ribbon is back tensioned by supply motor, picture comes to center of the printing paper by operating the feed roller and capstan, after that the head is pressed to platen.

Fig. (6)



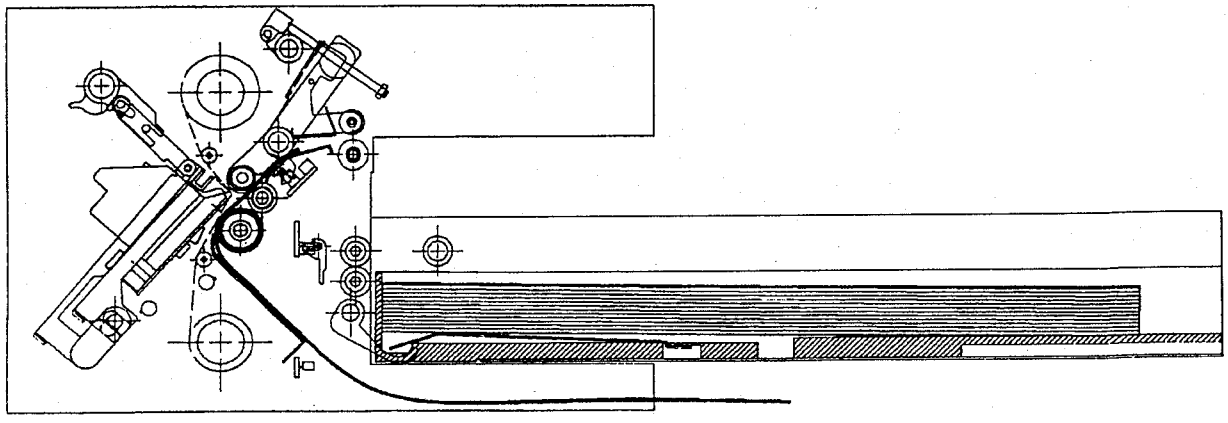
7. Yellow printing
   - Ribbon take-up and ribbon supply motors are rotated so that tension becomes calculated value from ribbon diameter.
   - After capstan rotates 1mm without loading, yellow color printing is performed. At that time, until printing paper is separated from separation roller, feed roller is rotated to coincide with printing speed.
   - After printing, feed roller rotates 1mm without loading.

Fig. (7)



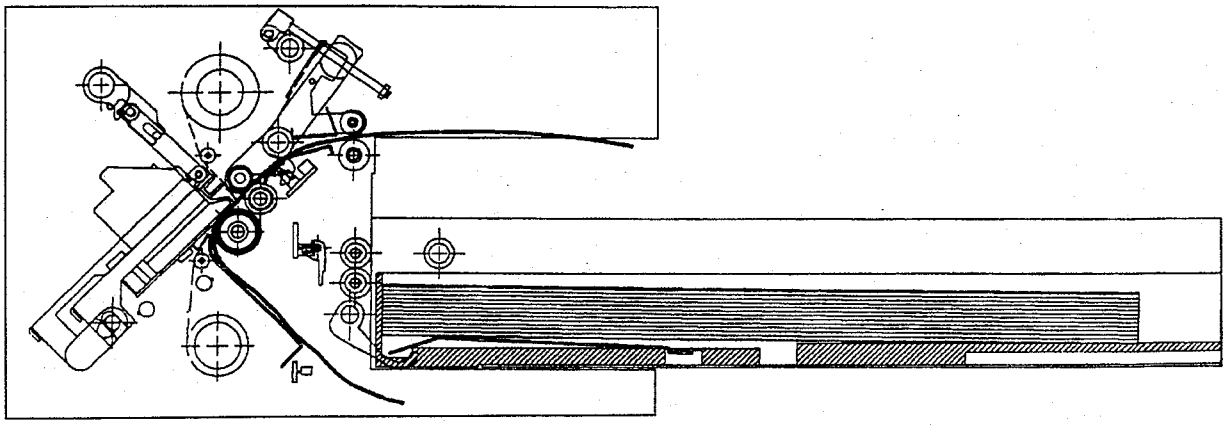
8. Yellow printing completion, and the ribbon sticking and peeling off.
   - After yellow printing, in case the most rear edge of printing paper does not come to the pass changing point. While ribbon is operated, printing paper is more sent about 10mm. Ribbon and printing paper after printing are peeled off. After that, head is set at MIDDLE position. Printing paper is sent until printing paper comes the pass changing point.
   - After yellow printing, in case the most rear edge of printing paper overs the pass changing point. Head is set to MIDDLE position. Ribbon take-up motor is rotated reversely little to slacken the ribbon. Printing paper is rewound about 30mm by ribbon supply motor with back tension, ribbon and prining paper after printing are peeled off.

Fig. (8)



9. Return of printing paper & beginning detection of magenta ribbon
   - In case ordinary paper, while ribbon is sent to next ribbon code, the printing paper is returned to the printing position by rotating capstan reversely.
   - In case OHP, printing paper is returned to the printing position by rotating capstan reversely, ribbon is sent to next ribbon code.
   - After that, ribbon is sent from ribbon code to true print position.

Fig. (9)



10. Magenta printing
- The head is pressed to the platen. Ribbon take-up and ribbon supply motors are rotated so that the tension becomes calculated value from ribbon diameter.
- After capstan rotates 1mm without loading, magenta color printing is performed.
- After printing, capstan rotates 1mm again without loading.

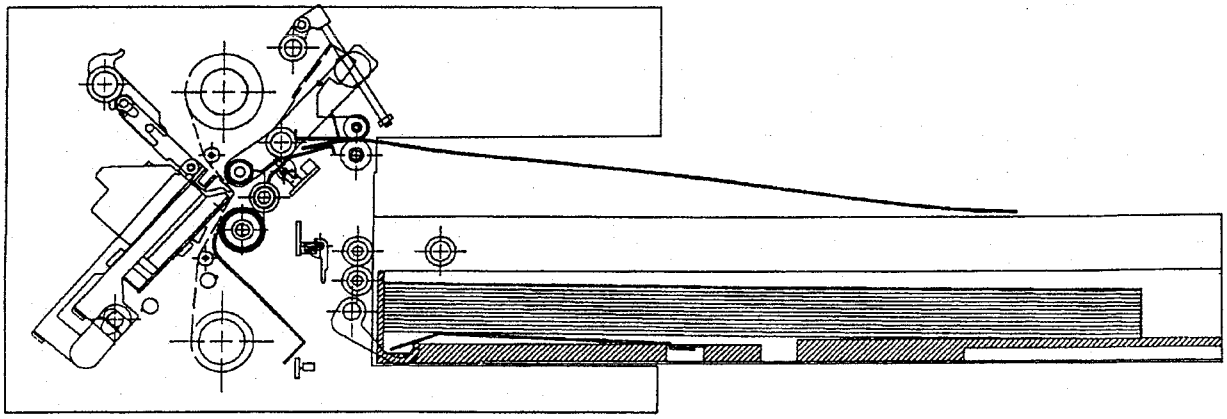
11. Magenta printing completion, and the ribbon sticking and peeling off
- Same as Fig(7). After printing magenta, head is set at MIDDLE position. Ribbon is slackened by little rotating reversely ribbon take-up motor. While ribbon is tensioned toward rear by ribbon supply motor, printing paper is returned 30mm, ribbon and printing paper after printing are peeled off.

12. Return of printing paper & beginning detection of cyan ribbon
- Same as Fig(8), operation description is same as 9.

13. Cyan printing
- Same as Fig(9), operation description is same as 10.

14. Cyan printing completion, and the ribbon sticking and peeling off
- Same as Fig(7). After printing cyan, while ribbon is moved as it is, printing paper is more sent about 8mm, ribbon and printing paper after printing are peeled off.

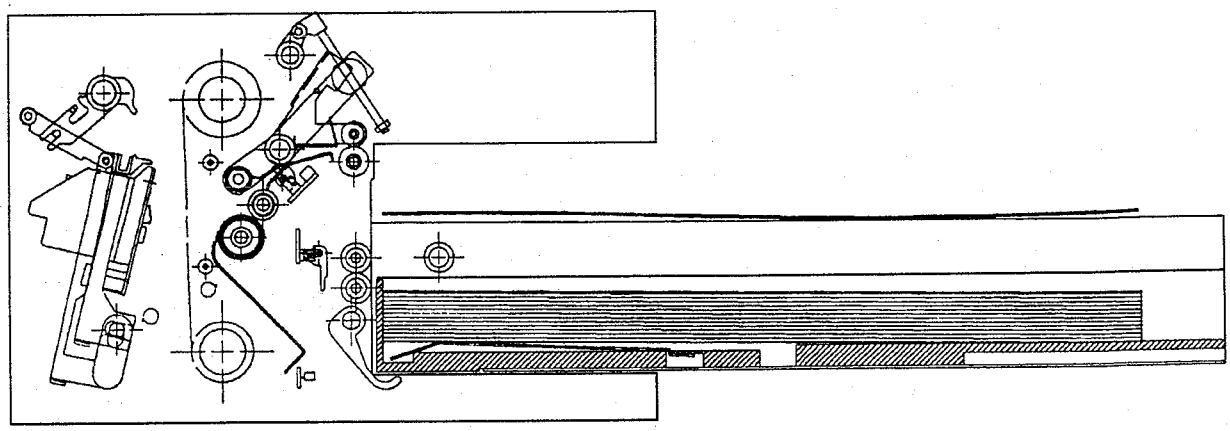
Fig. (10)



15.Delivery paper operation

- Head is separated from platen, pinch roller is separated from capstan, delivery pinch roller is pressed to delivery roller.
- Slack of ribbon is taken by ribbon supply motor. After that printing paper is passed through delivery roller completely by rotating capstan and delivery roller.

Fig. (11)



16.Operation after delivery paper

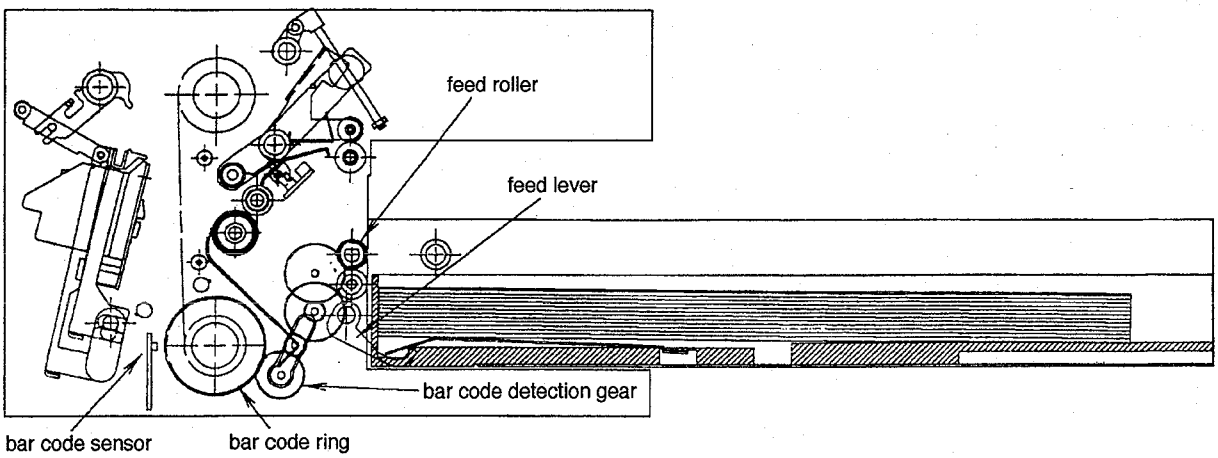
- Feed lever is positioned to UP, once printing paper is engaged feed roller by rotating feed motor 300ms correctly. After that, feed lever is positioned to MIDDLE, and feed motor is rotated 400ms reversely. Furthermore, feed lever is positioned to UP, feed motor is rotated 200ms reversely. This means that printing papers out of feed tray are returned to the feed tray. (This means to prevent slack of rear portion of remaining printing paper in the feed tray.)
- Feed lever is positioned to MIDDLE.
- Ribbon is rotated to beginning of next yellow.
- Head and feed lever are positioned to home position, ribbon cartridge and lock of feed tray is released. The unit becomes on standby mode.

17.All operation is completed.

7-6. TIMING FOR BAR CODE DETECTION

1) With ribbon cassette is inserted, the time when power switch is turned on.
2) Once ribbon cassette is removed, it is inserted again, and the time when printing is performed.
3) Once ribbon cassette is removed, it is inserted again, the time when ribbon quantity is ensured by QTY key.

Operation of bar code detection



1. Feed lever is positioned for printing.
2. Feed roller is rotated reversely, bar code ring is rotated by engaging bar code detection gear.
3. Bar code sensor detects the bar code.

SECTION 8
CIRCUIT OPERATION DESCRIPTION

8-1. SY-12 BOARD, MEC-2 BOARD CIRCUIT OPERATION DESCRIPTION

SY-12 board is composed by system control block and mechanism control block and thermal head control block. These each block processes or controls following items.

- System control section
  program transmission to each circuit board
  transmission control between each circuit boards
  control of key
  LCD indication

- Mechanism control section
  control of each motor
  process of each sensor

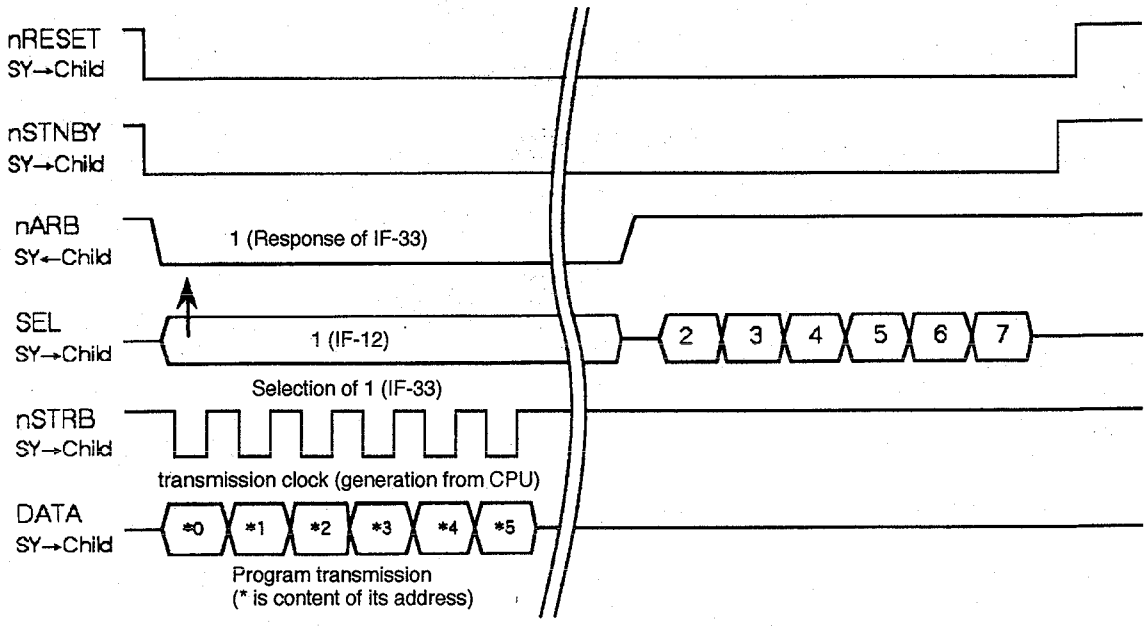
- Thermal head control section
  gamma correction
  head voltage control
  data transmission from memory
  picture quality correction (PQC IC)
  head data transmission

MEC-2 board is composed by drive IC of each motor, sensor detection circuit, sensor LED control circuit and EEPROM.

8-1-1. System Control Section

(1) Program transmission to each circuit board

When SY-12 board is rising, nRESET and nSTNBY are set to L and sent them to each circuit board CPU in order to stand by hardware. And the program is sent to SRAM of each circuit board.
Following figure is sending chart from SY-12 board to IF-33 board (SEL=1).



(2) Address map

Program data for transmission to IF-33 and FMY-15 boards are registered at IC102 on SY-12 board. IC102 is divided by three parts, each part registers SY-12, IF-33 and FMY-15 boards program individually.
As address space of CPU of SY-12 board is 64kB, memory bank changing is performed at B0.

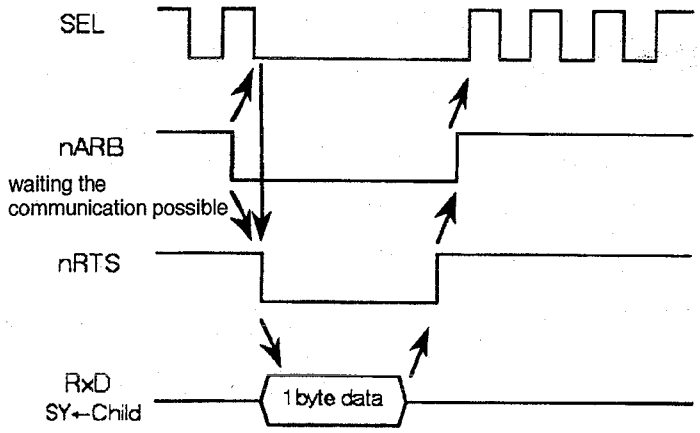
SY-12 Program 00000-0FFFFH
IF-33 Program 10000-17FFFH
SY-12 Program 18000-1FFFFH

00000H-0EFFFH	Program
0F000H-0F0FFH	Gamma SRAM
0F100H-0F2FFH	VDC IC
0F300H-0F4FFH	PQC IC
0F500H-0F503H	IC105 (Bus control)
0F510H-0F513H	IC106 (Motor/Sensor)
0F520H	LCD
0F530H-0531H	Average resistance value
0F540H	Sensor
0F780H-0FB7FH	Reserve
0FB80H-0FF80H	1KB SRAM
0FF88H-0FFFFH	I/O port

(3) Transmission control between each board

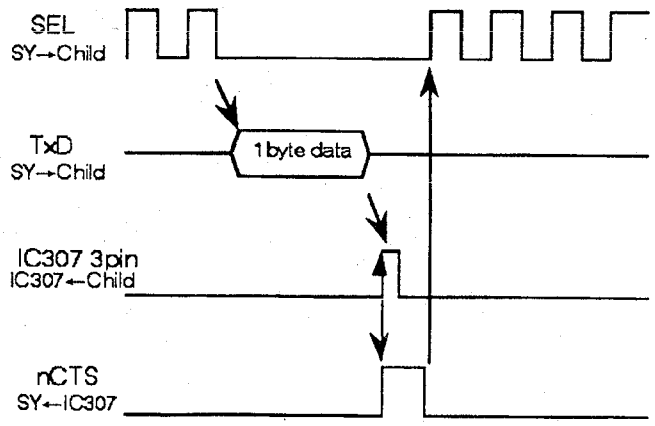
Serial communication between each board (SY-12 board ⇔ other board) is performed by time division mutual toward one system.
Sequence of this timing division is performed as follows. Baud rate is 31250bps.

●When receiving (Child data ⇒ SY-12 board)



1) Before data sending, child board sets nARB to L.
2) SY-12 board ensures nARB to L, SY-12 board stops rotation of nSEL and lowers nRTS.
3) Child board sends the data 1byte.
4) SY-12 board ups RTS, child ups nARB.
5) When nARB is upped, SY-12 board opens rotation again.

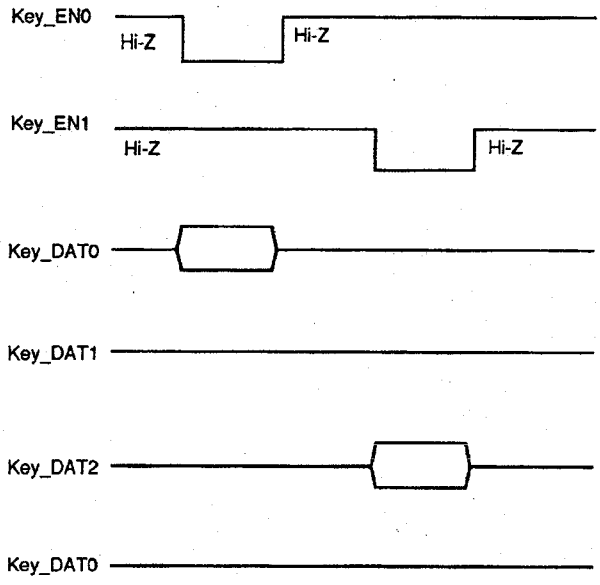
●When transmitting (SY-12 board data ⇒ Child)



1) SY-12 board stops rotation by child which want to send SEL.
2) SY-12 board sends 1byte data.
3) Child board ups RTS, CTS of SY-12 board is upped by beating clock of IC307 (D,FF) SY-12 board.
4) SY-12 board ensures CTS was upped, and clears CTS again to reopen rotation.

(4) Key control

Key control is composed by two control wire (KEY_EN0,1:key scan) and four data wire (KEY_DAT0-3: key information). Following figure is key control timing chart. Lower right side table is key matrix.



	KEY_EN0	KEY_EN1
KEY_DAT0	MENU	RIGHT
KEY_DAT1	QTY	LEFT
KEY_DAT2	PRINT	UP
KEY_DAT3	STOP	DOWN

(5) LCD control

Control wire of LCD module is eleven of D0-7, R, R-nW, nE. Data wire of D0-7 is connected to data bus via mutual toward buffer of IC107.

8-1-2. Mechanism Control Section

(1) Capstan motor control

Capstan is driven by a stepping motor. Excitation system of stepping motor uses 1-2 phase excitation system (negative logic). This motor (CN4 2-5) rotates delivery roller and capstan by head position.
Drive IC, IC101 (MEC-2 board) performs constant current drive. And when printing 150dpi, width of 1 line becomes two times by rotating two times motor speed.

(2) Head motor drive

This motor performs the thermal head up and down. This motor and head home position sensor (describe later) move thermal head four positions, home, feed paper, paper sending, printing. (CN4 10, 11)
Drive IC is IC102 (MEC-2 board).

	CN4 10pin	CN4 11pin
UP	1	0
DOWN	0	1
BRAKE	1	1
OTHERS	0	0

(3) Feed lever motor drive

This motor performs feed lever up and down. Feed lever has three positions home, printing, feeding paper. (CN4 8, 9)
Drive IC is IC105 (MEC-2 board).

	CN4 8pin	CN4 9pin
UP	1	0
DOWN	0	1
BRAKE	1	1
OTHERS	0	0

(4) Feed roller motor drive

This motor rotates feed roller, pick-up roller and bar-code gear. When feed lever is positioned at printing, bar-code gear transmits power by rotating reversely. And when yellow printing bar-code gear controls rotation of feed roller by PWM driving. (CN4 6, 7)
Drive IC is IC106 (MEC-2 board).

	CN4 6pin	CN4 7pin
Feeding direction	1	0
Reverse direction	0	1
BRAKE	1	1
OTHERS	0	0

(5) Ribbon take-up motor drive

This motor is used to take-up ink ribbon. This motor stabilizes to constant the tension of ink ribbon by PWM driving. Take-up motor controls only ribbon sending direction by PWM. (CN4 12, 13)
Drive IC is IC104 (MEC-2 board).

	CN4 12pin	CN4 13pin
Sending direction	1	PWM
Reverse direction	0	1
BRAKE	1	1
OTHERS	0	0

(6) Ribbon supply motor drive

This motor controls rear-tension of ink ribbon. This motor is controlled with PWM (both directions of ribbon) to stabilize constantly the rear-tension of ink ribbon. (CN4 14, 15)
Drive IC is IC103 (MEC-2 board).

	CN4 14pin	CN4 15pin	IC106 9pin	IC106 13pin	IC101 46pin
Feeding direction	1	PWM	1	0	PWM
sending direction	PWM	1	0	1	PWM
BRAKE	1	1	1	1	X
OTHERS	0	0	0	0	0

(7) Fan motor drive

Fan motor operates during printing and the time when head cooling is needed. (CN4 16)

(8) Take-up/supply ribbon FG sensor (CN5 8, 9)

Function : These FG sensors detect each rotation of take-up or supply motor.
Level : Rectangle wave output
Check method : Self diagnosis

(9) PATH 0 sensor (CN5 16)

Function : This is mechanism sensor that is placed at rear of feed roller. As this is mechanism sensor, this sensor can judge the path without discrimination of OHP sheet or ordinary paper. This is composed by photo interruptor and shutter.
Level : When passing through the paper, sensor indicates H.
Check method : Self diagnosis

(10) PATH 1 sensor (CN5 17)

Function : This sensor detects rotation of stepping motor and detects condition of the motor.
Level : Rectangle wave output
Check method : Self diagnosis

(11) Paper edge sensor (CN5 10)

Function : This is mechanism sensor that is placed at rear of capstan roller. Same as PATH 0 sensor, this is mechanism sensor, so, this sensor can judge the path without discrimination of OHP sheet or ordinary paper. This is also composed by photo interrupter and shutter.
Level : When passing through the paper, sensor indicates H.
Check method : Self diagnosis

(12) Paper size sensor (CN5 12, 14)

Function : This sensor detects printing paper size in the feed tray. Two sensors judge paper size and whether there is paper or not.
Level : When depressing the sensor, indication is H.
Check method : Self diagnosis

(13) Load FG sensor (CN4 18)

Function : This sensor detects rotation of load motor.
Level : Rectangle wave output
Check method : Self diagnosis

(14) Head home/position sensor (CN5 4, 5)

Function : This sensor detects position of thermal head.
Level : Refer to lower table.
Check method : Self diagnosis

Head position	Home sensor	Position sensor
Home position	0	1
Position 1, 2, 3	1	0
OTHERS	1	1

(15) Feed paper lever home/position sensor (CN5 6, 7)

Function : This sensor detects position of feed paper lever.
Level : Refer to lower table.
Check method : Self diagnosis

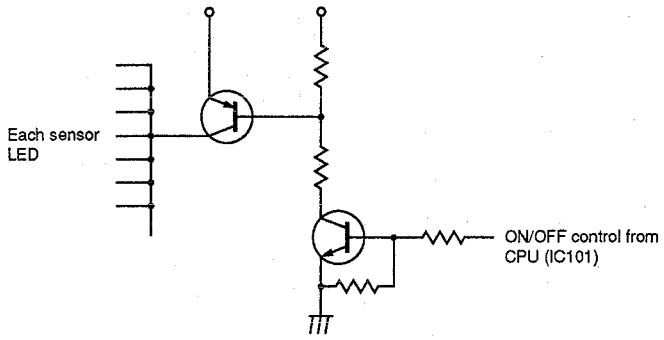
Lever position	Home sensor	Position sensor
Home position	0	1
Position 1, 2	1	0
OTHERS	1	1

(16) Ribbon cassette sensor (CN5 2)

Function : This sensor detects whether there is ink ribbon cassette or not. This is also mechanism sensor that is composed by photo interrupter and shutter.
Level : When depressing the sensor, indication is H.
Check method : Self diagnosis

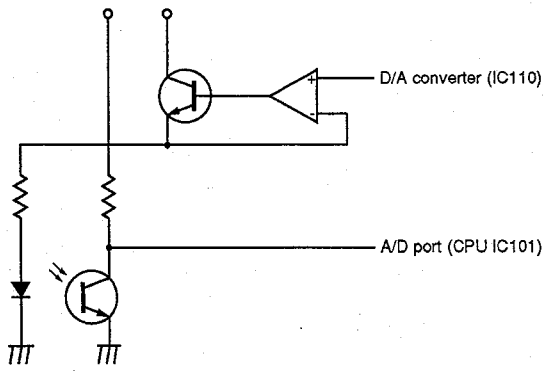
(17) LED_ON_nOFF Circuit (CN5 18)

Function : This circuit turns ON or OFF LED of each sensor between items (8)→(16) This is performed self diagnosis of each sensor.
Level : Usual (when LED lights ON) is H.
Check method : When performing self diagnosis, if all sensors are error, this circuit may be damaged.



(18) Bar-code sensor/luminance quantity adjustment (CN5 11, 20)

Function : This reflection sensor reads 12bit bar-code attached to ink ribbon. Pair LED luminance is set to obtain the most suitable luminance quantity. When reading ribbon code every time, the threshold level value for judging L or H is changed to the most suitable value.
Level : Reflection portion of bar-code is L, black portion is H.
Check method : Ribbon cassette with bar-code is inserted, and make sure that ribbon error is not indicated. (Self diagnosis can not be obtained.) If ribbon error is indicated, make sure the threshold level and, feed lever should be positioned at printing, load motor should be rotated reversely, make sure sensor output.



(19) Ribbon code sensor/luminance quantity adjustment (CN5 3, 19)

Function : This is transmission type sensor that reads ribbon code and stating mark on the ink ribbon. Pair LED luminance is set to obtain the most suitable luminance quantity. When reading ribbon code every time, the threshold level value for judging L or H is changed to the most suitable value.
Level : Ribbon code portion is H, others are L
Check method : Make sure the threshold level, ribbon cassette should be inserted, ribbon should be rotated correctly, make sure the sensor output.

(20) OHP sensor/luminance quantity adjustment (CN5 15, 21)

Function : This is transmission type sensor that detects paper kind after feeding paper. Pair LED luminance is set to obtain the most suitable luminance quantity. When reading ribbon code every time, the threshold level value for judging L or H is changed to the most suitable value.
Level : Ordinary paper is H, OHP is L.
Check method : Make sure the threshold level, paper should be pass, and make sure sensor output.

(21) Head thermistor (CN7 27)

Function : This thermistor measures temperature of the thermal head.
Level : Approximately 2.5V at the normal temperature (25℃)
Check method : Measure the voltage of thermistor.

(22) Room thermistor (CN4 17)

Function : This thermistor measures the temperature at the inside of the unit.
Level : Approximately 2.5V at the normal temperature (25℃)
Check method : Measure the voltage of thermistor.

8-1-3. Thermal Head Control Section

Data current of thermal head control section is as follows.
Memory→Gamma correction→Picture quality correction IC→Resistance value correction→Drive IC→Thermal head

(1) Gamma correction IC

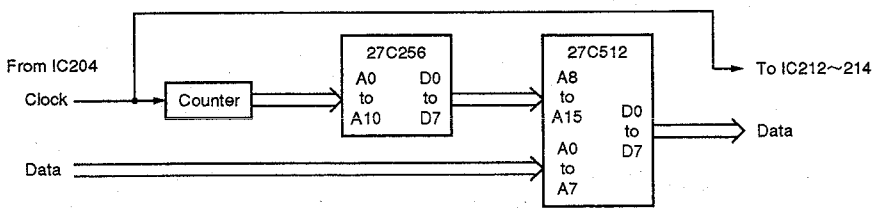
The program ROM (IC101) has gamma correction curved lines. When printing, the most suitable gamma curved line (the temperature, the kind of paper) is sent to gamma correction SRAM (IC203). And is memorized. Self diagnosis of address and data bus of gamma SRAM peripheral can be performed.

(2) Picture quality correction

IC204 outputs request signal to the memory at rising edge of PRINT_PLS0 from CPU. And receive the data (via gamma correction).
IC204 performs edge emphasis and heat store correction and outputs to next by 1 line delay.

(3) Resistance value correction

This is composed by two ROMs, IC209 (Resistance value data of the head) and IC210 (Resistance value correction curved line).



(4) Drive IC

IC212, 213 and 214 output request signal to IC204 at rising edge of PRINT_PLS1 from IC204. And receive the data (via resistance value correction), and send PWM converted data to the head by 1 line delay.

Output data of IC212: CN7 1 to 8
Output data of IC213: CN7 9 to 16
Output data of IC214: CN7 17 to 20

Furthermore, IC212 outputs HED_CLK (CN7 22) and HED_LATCH (CN7 24) to the head.

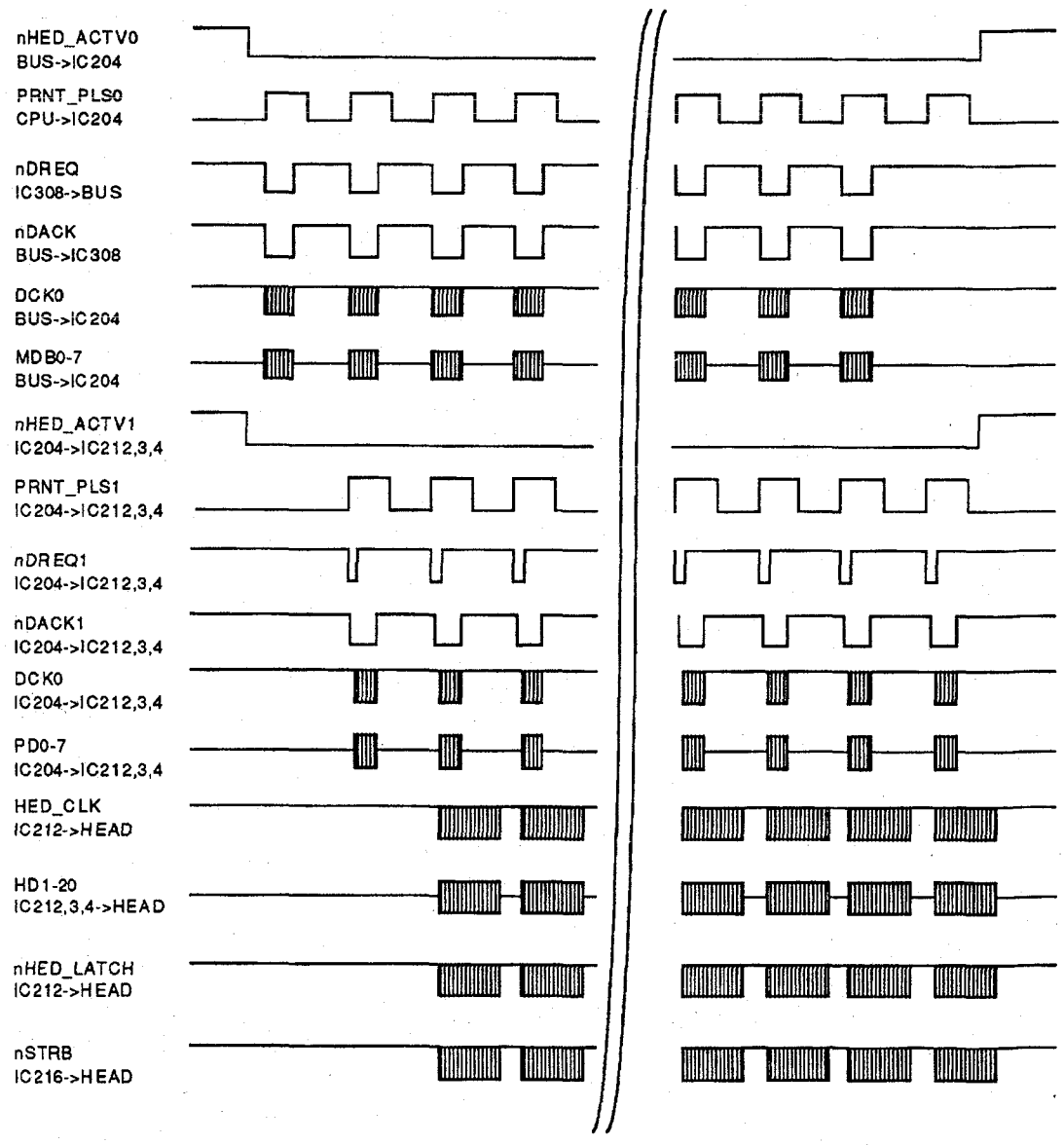
(5) Line quantity correction IC

This IC corrects voltage changes of head elements that is turned on the electricity by 1 line.
Data is inputed from IC212 to 214, according to it's data quantity, width of head $\overline{\text{STROBE}}$ (CN7 25) is adjusted.

(6) Head voltage control

This unit does not need the head voltage adjustment basically. But head voltage is not always stabilized by heat store of the head or difference between printing papers. When head voltage is less than 16V or more than 23V, the head or power supply is abnormal.

(7) Head control section timing chart



8-1-4. Port Map

(1) CPU (IC101) Port map

Terminal	Signal line name	I/O	Function
1	nRESET	I	Reset of CPU
2	XTAL		Clock oscillator (20MHz)
3	EXTAL		Clock oscillator (20MHz)
4	MD1	I	Appointment of CPU operation mode
5	MD0	I	Appointment of CPU operation mode
6	nNMI	I	Non maskable interrupt
7	nSTBY	I	Stand-by
8	Vss		GND
9	nARB	I	Communication between daughter boards
10	RxD	I	Receiving data
11	TxD	O	Transmission data
12	Vss		GND
13	nWAIT	I	Wait
14	ϕ		System clock
15	nAS	O	Address strobe
16	nWR	O	Write signal
17	nRD	O	Read signal
18	nIRQ0	I	DREQ break into
19	nDREQ	I/O	Print data request
20	nDACK	I/O	Print data acknowledgment
21	KEY_EN0	O/Hi-Z	Key scan
22	KEY_EN1	O/Hi-Z	Key scan
23	KEY_DAT0	I	Key data
24	KEY_DAT1	I	Key data
25	KEY_DAT2	I	Key data
26	KEY_DAT3	I	Key data
27	RS	O	LCD
28	R_nW	O	LCD
29	AVss		Ground of A/D conversion
30	RBN_CD_SENS	I	Input of ribbon code sensor

Terminal	Signal line name	I/O	Function
31	BCD_SENS	I	Input of barcode sensor
32	OHP_SENS	I	Input of OHP sensor
33	HED_THERM	I	Thermister value of thermalhead
34	ROOM_THERM	I	Thermister value of room
35	nCTS_LATCH	I	nCTS
36	ROOM_THERM2	I	Thermister value of room
37	P77	I	
38	AVcc		Power supply of A/D conversion
39	EXTRA	I/O	
40	PRNT_PLS0	O	Print pulse
41	nHED_ACTV0	O	Head active
42	nRTS	O	Receiving possible (Low active)
43	P_TYPE0	O	Number of the identical images in one printout
44	P_TYPE1	O	Number of the identical images in one printout
45	PWM0	O	Take-up motor PWM
46	PWM	O	Supply motor PWM
47	Vcc		Power supply
48	A15	O	Address
49	A14	O	Address
50	A13	O	Address
51	A12	O	Address
52	A11	O	Address
53	A10	O	Address
54	A9	O	Address
55	A8	O	Address
56	Vss		GND
57	A7	O	Address
58	A6	O	Address
59	A5	O	Address
60	A4	O	Address

Terminal	Signal line name	I/O	Function
61	A3	O	Address
62	A2	O	Address
63	A1	O	Address
64	A0	O	Address
65	D0	I/O	Data
66	D1	I/O	Data
67	D2	I/O	Data
68	D3	I/O	Data
69	D4	I/O	Data
70	D5	I/O	Data
71	D6	I/O	Data
72	D7	I/O	Data
73	Vss		GND
74	DI	I	Control line of EEPROM
75	CLK	O	Control line of EEPROM
76	LD	O	Control line of EEPROM
77	DO	O	Control line of EEPROM
78	SDA	I/O	Control line of external A/D converter
79	SCL	O	Control line of external A/D converter
80	DCK	I/O	Printing data clock

(2) PPI (IC105) Port map

Terminal	Signal line name	I/O	Function
1	NC		
2	nCS	I	Tip select
3	GND		GND
4	A1	I	Address
5	A0	I	Address
6	B1	O	Address for changing memory bank
7	B0	O	Address for changing memory bank
8	TRNS_ENB	O	Control line for transmission in printing
9	nHOT_RESET	O	PQC IC hot reset
10	COLOR0	O	Gamma SRAM Color bit
11	COLOR1	O	Gamma SRAM Color bit
12	COLOR2	O	Gamma SRAM Color bit
13	CK_SEL	O	Head control clock select
14	SEL0	O	Daughter board select signal
15	SEL1	O	Daughter board select signal
16	SEL2	O	Daughter board select signal
17	NC		
18	nC_RESET	O	Daughter board CPU reset
19	nSTNBY	O	Daughter board CPU stand-by
20	nSTRB	O	Daughter board clock for program transmission
21	nCTS_CLR	O	nCTS_LATCH Clear
22	PB7	O	
23	Vcc		Power supply
24	D7	I	Data
25	D6	I	Data
26	D5	I	Data
27	D4	I	Data
28	D3	I	Data
29	D2	I	Data
30	D1	I	Data

Terminal	Signal line name	I/O	Function
31	D0	I	Data
32	RESET	I	Reset (High active)
33	NC		
34	NC		
35	nWR	I	Write signal
36	MDB7	I/O	Main data bus
37	MDB6	I/O	Main data bus
38	MDB5	I/O	Main data bus
39	MDB4	I/O	Main data bus
40	MDB3	I/O	Main data bus
41	MDB2	I/O	Main data bus
42	MDB1	I/O	Main data bus
43	MDB0	I/O	Main data bus
44	nRD	I	Read signal

(3) PPI (IC106) Port map

Terminal	Signal line name	I/O	Function
1	NC		
2	nCS	I	Tip select
3	GND		GND
4	A1	I	Address
5	A0	I	Address
6	nPQC_RESET	O	PQC IC reset
7	ALRM_LED	O	Alarm LED
8	FAN_MTR	O	Fan motor
9	SPLY_MTR0	O	Supply motor
10	HED_MTR0	O	Head motor
11	HED_MTR1	O	Head motor
12	TKUP_MTR0	O	Take-up motor
13	SPLY_MTR1	O	Supply motor
14	HED_HOM_SENS	I	Head home sensor
15	HED_POS_SENS	I	Head position sensor

Terminal	Signal line name	I/O	Function
16	ARM_HOM_SENS	I	Arm home sensor
17	NC		
18	ARM_POS_SENS	I	Arm position sensor
19	TKUP_FG_SENS	I	Take-up FG sensor
20	SPLY_FG_SENS	I	Supply FG sensor
21	P_EG_SENS	I	Paper edge sensor
22	RBN_CST_SENS	I	Ribbon cassette sensor
23	Vcc		Power supply
24	D7	I	Data
25	D6	I	Data
26	D5	I	Data
27	D4	I	Data
28	D3	I	Data
29	D2	I	Data
30	D1	I	Data
31	D0	I	Data
32	RESET	I	Reset (High active)
33	NC		
34	NC		
35	nWR	I	Write signal
36	ARM_MTR1	O	Feed paper lever motor
37	ARM_MTR0	O	Feed paper lever motor
38	LOAD_MTR1	O	Feed paper motor
39	LOAD_MTR0	O	Feed paper motor
40	CAP_MTR_A	O	Capstan motor
41	CAP_MTR_B	O	Capstan motor
42	CAP_MTR_nA	O	Capstan motor
43	CAP_MTR_nB	O	Capstan motor
44	nRD	I	Read signal

8-1-5. Relation of Error Indicating Each Sensor

(1) NO RIBBON

Detection sensor : Ribbon cassette sensor (photo interrupter)
Cause : Sensor does not detect ribbon cassette.
Symptom : 1. Ribbon cassette is not inserted.
2. Ribbon cassette is not inserted correctly or ribbon cassette was pulled out during printing.
3. Sensor defective
4. Mechanism section which interrupts the photo interrupter does not operate smoothly.

(2) NO PAPER

Detection sensor : Paper size sensor 0 or 2 (Photo interrupter)
Cause : Sensor does not detect printing paper.
Symptom : 1. Feed paper tray is not inserted.
2. Feed paper tray is inserted halfway.
3. No printing paper is inserted.
4. Sensor defective
5. Mechanism section which interrupts the photo interrupter does not operate smoothly.
6. Printing paper is curl largely.

(3) RIBBON & PAPER MISMATCH

Detection sensor : OHP sensor (Interructive type) and bar-code sensor (Reflection type)
Cause : A kind of paper detected by ribbon cassette and a kind of paper detected by bar-code sensor are not coincide.
Symptom : 1. A kind of ink ribbon and a kind of printing paper are not coincide.
2. Either sensor defective
3. Threshold value defective of either sensor
4. Bar-code ring defective

(4) END OF RIBBON

Detection sensor : Take up FG sensor (Photo interrupter) and Supply FG sensor (Photo interrupter)
Cause : It was judged that ribbon is stopped by both FG sensors during beginning detection of ribbon.
Symptom : 1. Ribbon is ended.
2. Ribbon is jammed.
3. Take-up ribbon motor does not operate.
4. Sensor defective.

(5) RIBBON ERROR

Detection sensor : Take up FG sensor (Photo interrupter) and supply FG sensor (Photo interrupter)
Cause : It was judged that ribbon is stopped by both FG sensors during beginning detection of ribbon.
Symptom : 1. Ribbon is jammed.
2. Ribbon is cut at the halfway.
3. Printing paper or ribbon is stopped at the halfway.
4. Sensor defective
5. Take up ribbon motor does not operate.
6. Take up ribbon motor rotate slowly.

(6) HEAD IN COOLING/HEAD IN HEATING

Detection sensor : Head thermistor
Cause : Head temperature is less than 15℃ or more than 60℃.
Symptom : 1. Head temperature is over than possible printing temperature range (15 to 60℃).
2. Head thermistor defective
3. Head harness defective

(7) HEAD CABLE NOT CONNECTED (This is not described in users manual.)

Detection sensor : Head thermistor
Cause : Head temperature is not measured.
Symptom : 1. Head thermistor defective
2. Head harness defective

(8) REMOVE PAPER AND PRESS[>]

Detection sensor : PATH 0 sensor (Photo interrupter) or paper edge sensor (Photo interrupter)
Cause : When feeding paper, paper does not come in a few seconds.
Symptom : 1. Paper is not send correctly by some reason.
2. Sensor defective. Or mechanism shutter defective.
3. Paper feed motor does not operate.

Detection sensor : PATH 1 sensor (Photo interrupter)
Cause : Capstan motor rotates abnormally during paper rewind.
Symptom : 1. Paper is unnaturally pulled by some reason during paper rewind.
2. Sensor defective
3. Capstan motor does not operate.

Detection sensor : Take up FG sensor (Photo interrupter) and supply FG sensor (Photo interrupter)
Cause : It was judged that ribbon is stopped by both FG sensors during printing.
Symptom : 1. Printing paper is stopped by some reason.
2. Abnormal occurs at ribbon.
3. Sensor defective

Detection sensor : Nothing
Cause : When turning the unit ON, it is judged that printing paper remains in the unit. (EEPROM memories that the unit is turned OFF during previous printing.)
Symptom : 1. The unit was turned OFF during previous printing.
2. EEPROM defective
3. EEPROM is not initialized.

(9) REMOVE PAPER

Detection sensor : PATH 0 sensor (Photo interrupter) or paper edge sensor (Photo interrupter)
Cause : It was judged that printing paper remains in the internal of the unit during waiting condition.
Symptom : 1. Printing paper remains in the internal of the unit.
2. Sensor defective. Or mechanism shutter defective.

(10) MECHA TROUBLE

Detection sensor : All of sensors
Cause/Symptom : The unit does not operate correctly by motor or sensor defective.
Countermeasure method : Survey the any sensor defective by using error reset menu.

SECTION 9
SERVICE MODE

9-1. SERVICE MODE

9-1-1. Construction

Service mode is composed as follows. ADJUST is added by entering the adjust mode.

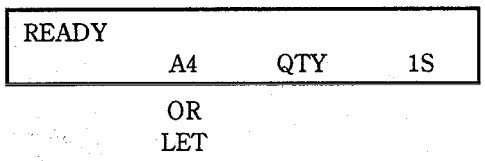
- COLOR ADJUST
- THRESHOLD
- TOTAL PRINT
- ERROR CANCEL
- TEST PATTERN
- MANUAL MECHA
- ROM Ver
- PRINTER SELF CHECK
- ADJUST

9-1-2. Entering Method

The unit can be entered in service mode by turning on the power switch while [←] and [→] keys on the front panel are depressed. In service mode, ordinary operation is possible. Service mode is released by turning off the power switch.

9-1-3. Content

When entering the service mode, LCD indication becomes follows.



In above condition, entering in menu by pressing [MENU] key.

- COLOR ADJUST (Adjustment of R, G, B, DARK, LIGHT, SHARPNESS, GAMMA)
  This is as same as usuall menu content.

· THRESHOLD (Threshold level of sensor)
Threshold levels of three sensors (ribbon code, bar code, OHP) at present are appeared by pressing [→] key.

RBN	BCD	OHP
110	121	117

Check sensor level whether it is normal or abnormal by dust or something.

Numerical value of threshold.

a. Decision of threshold level
Decision of sensor H or L level is performed by judging the threshold level that is decided just before printing. When printing is ended, the threshold level that is used in next printing is decided by electric potential of this printing H, L level. First value of threshold level is decided by receiving light side when adjusting sensor luminance quantity.

b. Numerical value indication
Electric potential of sensor is obtained by 8bit A/D conversion. Threshold indication is also based by 8bit A/D conversion. Electric potential of each threshold level is obtained as follow expression.
Electric potential=5×(indication value/255)

c. Abnormal value
In case indication value is more than 229(4.5V) or less than 25(0.5V), the value can be judged abnormal.

· TOTAL PRINT (Total printing quantity of thermal head)
When depressing [→] key, total printing quantity of thermal head is indicated.

· ERROR CANCEL (Recovery of sensor or motor trouble.)
When depressing [→] key, motor or sensor name is indicated.

HEAD MOTOR
[→]

When repairing is ended, next indication is appeared by depressing [→] key. And error condition is recovered by depressing [←] key.

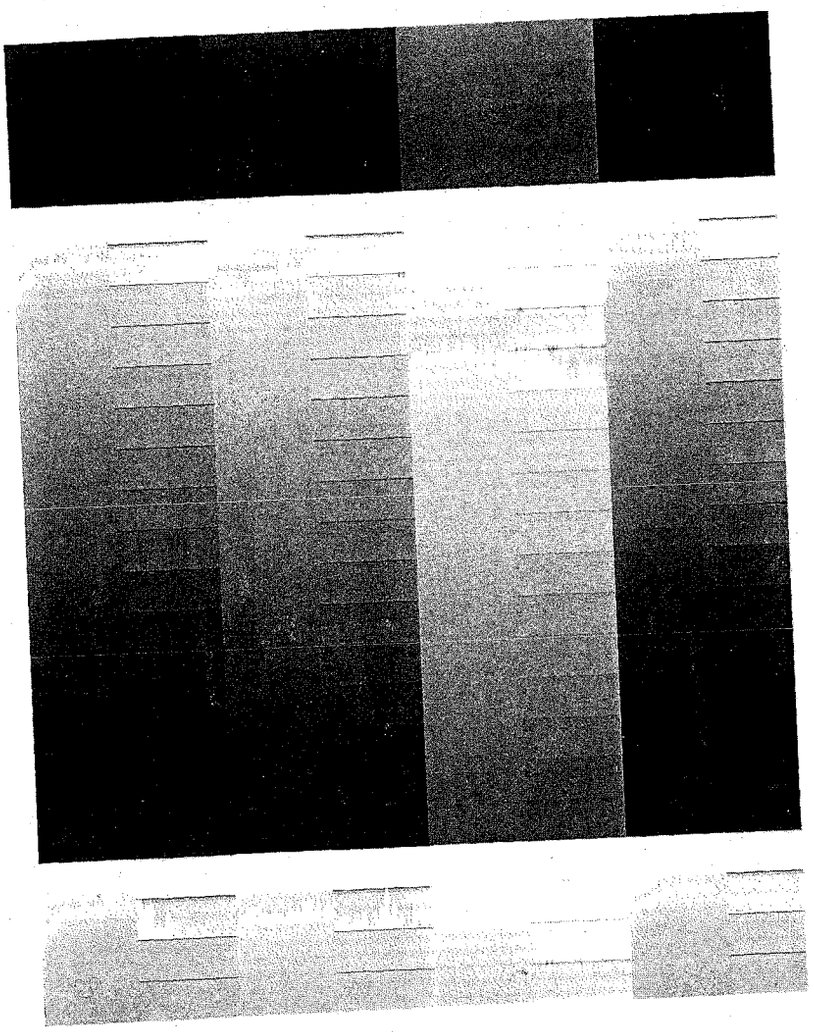
CLEAR : PRESS[←]

· TEST PATTERN (TEST PATTERN PRINTING)

By depressing [→] key, indication is as follows.

```
COLOR STEP
      PRESS[→]
```

By depressing [→] key, following picture is printed. Ribbon remaining quantity is not changed by this printing. Color adjustment by COLOR ADJUST is not reflected on this printing.



· MANUAL MECHA (MANUAL MECHANISM OPERATION)
When trouble portion detecting or repair completion checking or pulling out the jammed printing paper, each motor can be operated by manual operation.
[→] key is depressed and a motor is selected by depressing [↑] or [↓] key.
Each motor operation is as follows.

HEAD MOTOR..... head position goes up every time the [→] key is depressed. head position goes down every time the [←] key is depressed.

LEVER MOTOR..... feed paper arm goes up every time [→] key is depressed. feed paper arm goes down every time [←] key is depressed.

LOAD MOTOR..... while depressing [→] key, feed paper roller rotate correctly (toward feed paper direction). while depressing [←] key, feed paper roller rotate reversely.

CAPS MOTOR..... while depressing [→] key, capstan motor rotate correctly. while depressing [←] key, capstan motor rotate reversely.

TKUP MOTOR..... while depressing [→] key, ribbon motor (take-up side) rotates toward ribbon take-up direction. while depressing [←] key, ribbon motor rotates toward rewind direction.

SPLY MOTOR..... while depressing [→] key, ribbon motor (supply side) rotates toward ribbon rewind direction.

· ROM ver (ROM version indication)
The version of programmable ROM IC102 on SY-12 board is appeared by depressing [→] key.

· PRINTER SELF CHECK (PRINTER SELF DIAGNOSIS FUNCTION)
Error which is detected by diagnosis function of each board is appeared by depressing [→] key.

① SY CHECKING
Errors of SY-12 board, MEC-2 board, each motor and sensors are checked.

② IF CHECKING
Error of IF-33 board is checked.

③ FMY CHECKING
Error of FMY-15 board is checked.

Concrete portion and content of each error is as follows.

SY-12 BOARD SELF DIAGNOSIS ERROR MESSAGE TABLE

ERROR MESSAGE	CONTENT
HEAD HOME SENSOR ERROR	Abnormal Head Home Sensor or Abnormal Head Motor.
HEAD POSITION SENSOR ERROR	Abnormal Head Position Sensor or Abnormal Head Motor.
LEVER HOME SENSOR ERROR	Abnormal Arm Home Sensor or Abnormal Lever Motor.
LEVER POSITION SENSOR ERROR	Abnormal Arm Position Sensor or Abnormal Lever Motor.
TAKE-UP FG SENSOR ERROR	Abnormal Take-up FG Sensor or Abnormal Take-up Motor.
SUPPLY FG SENSOR ERROR	Abnormal Supply FG Sensor or Abnormal Supply Motor.
PAPER EDGE SENSOR ERROR	Abnormal Paper Edge Sensor.
PAPER SIZE 0 SENSOR ERROR	Abnormal Size 0 Sensor.
PAPER SIZE 2 SENSOR ERROR	Abnormal Size 2 Sensor.
PAPER PATH 0 SENSOR ERROR	Abnormal Pass 0 Sensor.
PAPER PATH 1 SENSOR ERROR	Abnormal Pass 1 Sensor and Abnormal Capstan Motor.
LOAD FG SENSOR ERROR	Abnormal Load FG Sensor and Abnormal Loading Motor.
RIBBON CASSETTE SENSOR ERROR	Abnormal Ribbon Cassette Sensor.
HEAD THERMISTOR SENSOR ERROR	Abnormal Head Thermistor Sensor and Abnormal Head Harness.
ROOM THERMISTOR SENSOR ERROR	Abnormal Room Thermistor Sensor.
GAMMA ERROR	Abnormal GAMMA SRAM(IC203).
VDC ERROR	Abnormal VDC(IC215).
PQC ERROR	Abnormal PQC(IC211-214).

IF-33 BOARD ERROR CORD TABLE

DIRECT DRIVE I/O CHECK	
1001	IC313[Q1 2]-IC315[D1 2]
1002	IC313[Q2 5]-IC315[D2 4]
1003	IC313[Q3 6]-IC315[D3 6]
1004	IC313[Q4 9]-IC315[D4 8]
1005	IC313[Q5 12]-IC315[D5 11]
1006	IC313[Q6 15]-IC315[D6 13]
1007	IC313[Q7 16]-IC315[D7 15]
1008	IC313[Q8 19]-IC315[D8 17]
1001-1008 all	In case, output from other board to MDB of IC313[EN 1]-, IC313[CLK 11]-, IC315[G1 1, G2 19]-, BUS.

DATA BUS SYSTEM CHECK OF BUF1	
1009	IC104[D0 11]-IC106[A0 2], IC106[B0 18]-
100A	IC104[D1 12]-IC106[A1 3], IC106[B1 17]-
100B	IC104[D2 13]-IC106[A2 4], IC106[B2 16]-
100C	IC104[D3 15]-IC106[A3 5], IC106[B3 15]-
100D	IC104[D4 16]-IC106[A4 6], IC106[B4 14]-
100E	IC104[D5 17]-IC106[A5 7], IC106[B5 13]-
100F	IC104[D6 18]-IC106[A6 8], IC1066B6 12]-
1010	IC104[D7 19]-IC106[A7 9], IC106[B7 11]-
109-1010	In case, output from other board to DKC of IC106[DIR 1]-, IC104[WR 27]-, IC104[OE 22]-, BUS.

ADDRESS CHECK OF BUF1	
1011	IC104[A0 10]-IC100[QA 14], IC104[A1 9]-IC100[QB 13]
1012	IC104[A1 9]-IC100[QB 13]
1011-1012, 1013	IC104[A2 8]-IC100[QC 12]
1011-1013, 1014	IC104[A3 7]-IC100[QD 11]
1011-1014, 1015	IC104[A4 6]-IC101[QA 14]
1011-1015, 1016	IC104[A5 5]-IC101[QB 13]
1011-1016, 1017	IC104[A6 4]-IC101[QC 12]
1011-1017, 1018	IC104[A7 3]-IC101[QD 11]
1011-1018, 1019	IC104[A8 25]-IC102[QA 14]
1011-1019, 101A	IC104[A9 24]-IC102[QB 13]
1011-101A, 101B	IC104[A10 21]-IC102[QC 12]
1011-101B, 101C	IC104[A11 23]-IC102[QD 11]
1011-101C, 101D	IC104[A12 2]-IC103[QA 14]
1011-101D	IC100, 101, 102, 103[CLK 2]-, [CLR 1]-

COLOR CHECK OF BUF1	
101E	IC104[A13 26]-, [A14 1]-

DATA BUS SYSTEM CHECK OF BUF2	
101F	IC204[D0 11]-IC205[A0 2], IC205[BO 18]-
1020	IC204[D1 12]-IC205[A1 3], IC205[B1 17]-
1021	IC204[D2 13]-IC205[A2 4], IC205[B2 16]-
1022	IC204[D3 15]-IC205[A3 5], IC205[B3 15]-
1023	IC204[D4 16]-IC205[A4 6], IC205[B4 14]-
1024	IC204[D5 17]-IC205[A5 7], IC205[B5 13]-
1025	IC204[D6 18]-IC205[A6 8], IC205[B6 12]-
1026	IC204[D7 19]-IC205[A7 9], IC205[B7 11]-
101F-1026	IC205[DIR 1]-, IC204[WR 27]-, IC204[OE22]-

ADDRESS SYSTEM CHECK OF BUF2	
1027	IC204[A0 10]-IC200[QA 14], IC204[A1 9]-IC200[QB 13]
1028	IC204[A1 9]-IC200[QB 13]
1027-1028,1029	IC204[A2 8]-IC200[QC 12]
1027-1029,102A	IC204[A3 7]-IC200[QD 11]
1027-102A,102B	IC204[A4 6]-IC201[QA 14]
1027-102B,102C	IC204[A5 5]-IC201[QB 13]
1027-102C,102D	IC204[A6 4]-IC201[QC 12]
1027-102D,102E	IC204[A7 3]-IC201[QD 11]
1027-102E,102F	IC204[A8 25]-IC202[QA 14]
1027-102F,1030	IC204[A9 24]-IC202[QB 13]
1027-1030,1031	IC204[A10 21]-IC202[QC 12]
1027-1031,1032	IC204[A11 23]-IC202[QD 11]
1027-1032,1033	IC204[A12 2]-IC203[QA 14]
1027-1033	IC200, 201, 202, 203[CLK 2]-, [CLR 1]-

COLOR CHECK OF BUF2	
1034	IC204[A13 26]-, [A14 1]-

CHECK OF BUF	
1035	IC501, IC502[A/B 1]-, IC503[1A 2], [2B 6]-, IC310[13]-, IC308[1, 5]-, of BUF signal system.

CHECK OF DCK GENERATION PORTION	
1036	IC402[8~13]-, IC403[1~6]-, IC306[1~3]-, IC303[1~3]-, IC300[FTCI57, FTOA58, P62 59, P63 60]-
1037	IC402[8~13]-, IC403[1~6]-, IC306[1~3]-, IC300[FTCI57, FTOA58, P62 59]-

FMY-15 BOARD SELF DIAGNOSIS ERROR MESSAGE TABLE

ERROR CODE	CONTENT
2001	Poor condition of data bus RDD0 to 3, GDD0 to 3, BDD0 to 3 or RAS or CAS between IC200 and D-RAM (IC201 to IC205, and IC211 to IC215, IC221 to IC225 on ME-6 board).
2002	Poor condition of address bus AA0 to 11 or RAS or CAS0 between IC200 and D-RAM (IC201 to IC205, and IC211 to IC215, IC221 to IC225 on ME-6 board). Or poor condition of D-RAM or IC200.
2003	Poor condition of data bus RD0 to 7, GD0 to 7, BD0 to 7 between IC106, 107, 108 and IC200. Or poor condition of data bus RY0 to 7, GY0 to 7, BY0 to 7 between IC102 and IC200. Or poor condition of D-RAM or IC200 or IC132 peripheral.
2004	Poor condition of data bus RD0 to 7, GD0 to 7, BD0 to 7 between IC106, 107, 108 and IC200. Or poor condition of data bus RY0 to 7, GY0 to 7, BY0 to 7 between D-RAM and IC102 . Or poor condition of D-RAM or IC200 or IC106, 107, and IC108 peripheral.
2005	Poor condition of data bus MAIN0 to 7 between IC102 and IC104. Or poor condition of data bus D0 to 7 between IC104 and IC105. Or poor condition of IC102 or IC104 or IC105 or IC200.
2006	Poor condition of D-RAM (IC201 to IC205, IC211 to IC215, IC221 to IC225 ME-6 board).

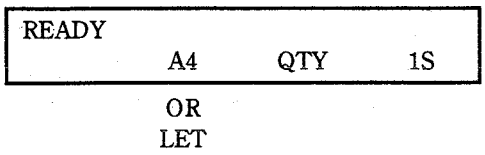
9-2. ADJUST MODE

9-2-1. Construction

ADJUST MODE is added ADJUST item to menu of service mode. ADJUST is constructed as follows.

· ADJUST
- LETTER/4A
- VOLT
- BCD D/A
- RIBBON D/A
- OHP D/A

9-2-2. Entering Method



While ready condition of service mode (above indication), Setting mode is entered by depressing [↑] key, [←] key [→] key and [↓] key in order.
In ADJUST MODE, usual operation is possible. ADJUST MODE is released by turning off the power switch.

9-2-3. Content

Entering in ADJUST MODE, LCD indication is as follows.

```
READY
          A4      QTY      1A
```

OR
LET

In this condition, Depressing [MENU] key is entered in menu. Setting items are as follows.

- LETTER/A4 (Selection of letter or A4 paper)
  Selection paper size by depressing [←] or [→] key.
- VOLT (Fine adjustment of head voltage)
  LCD indication is as follows.

```
VOLT=17.7[+0.0]
R=4257(ohm) ↕
```

Number at left side of voltage value is the head voltage value that is calculated from average resistance value of the head that is built the unit. (Head temperature 35℃, starting point when printing the ordinary paper.) If the most density is not obtained at this voltage, fine adjustment should be performed by depressing [←] or [→] key. Fine adjustment voltage is indicated at inside of [ ] of right side.

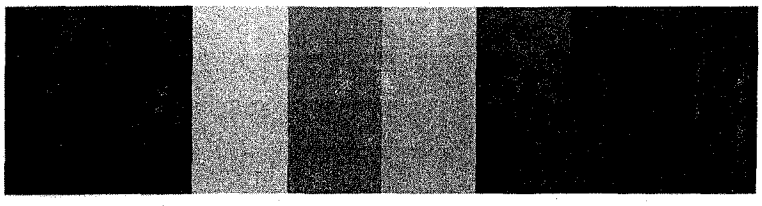
- BCD D/A (Bar code sensor luminance quantity adjustment)
- RIBBON D/A (Ribbon code sensor luminance quantity adjustment)
- OHP D/A (OHP sensor luminance quantity adjustment)
  Bar code, ribbon code and OHP sensors are adjusted the most LED luminance quantity by D/A converter. When replacing each sensor or EEPROM, the adjustment is needed.
- BCD D/A
  Ribbon cassette is inserted and it is adjusted by depressing [→] key. This adjustment is needed two or three times repeatly to obtain the most suitable value. In case readjustment is needed, following indication is appeared, it is adjusted by depressing [→] key again.

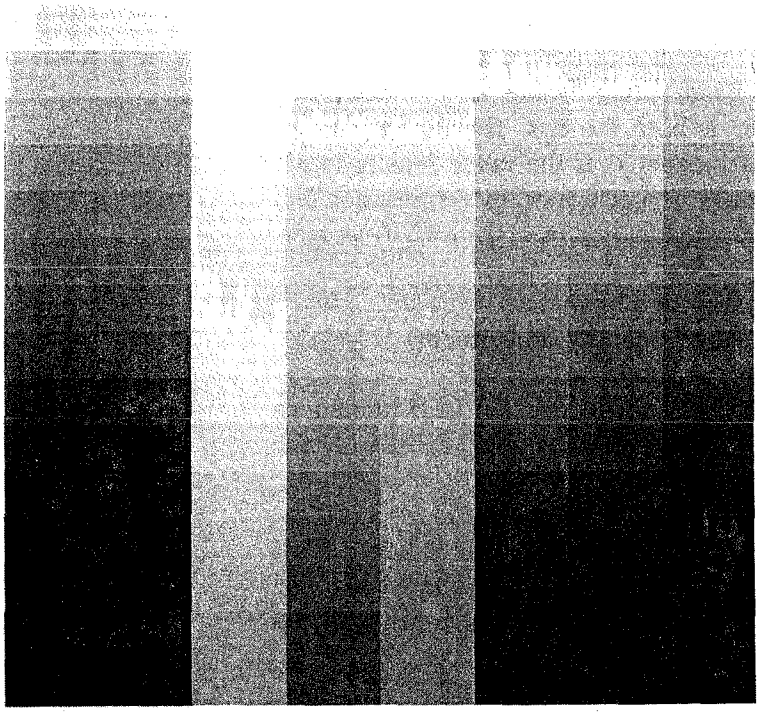
```
BCD        D/A
SENSOR ERROR
```

- RIBBON D/A
  Ribbon cassette should be set to see the cyan portion. And cassette is inserted to the unit. It is adjusted by depressing [→] key.
- OHP D/A
  Ensure that printing papers are not entered into the unit. It is adjusted by depressing [→] key.

9-3. FMY PRINTING

Test pattern printing is also performed in ordinary mode by operating front key only. Color steps is written in memory by depressing both [STOP] and [MENU] keys simultaneously. After that print is performed by depressing PRINT key. It is different from test pattern in service mode, print is performed through FMY-15 board. But, adjustment of COLOR ADJUST is not reflected. And ribbon remaining quantity is changed by this printing.





9-4. RESET OF EACH KIND ESTABLISHMENT VALUE

All kind establishment values are kept at EEPROM. If it is necessary, all kind establishment values can be reset to first value.

① Reset of EEPROM

Perform this reset when replacing EEPROM or MEC-2 board (has EEPROM)

Entering Method..... After entering service mode, while [STOP] key is depressed, [↑] and [↓] keys should be depressed in the ready condition of service mode (following picture) in order.

```
READY
          A4        QTY        1S
```

OR

LET

Content..... following values are returned to first value.

user establishment value:

each value of COLOR ADJUST

printer condition:

ribbon remaining, each error information, TOTAL PRINT quantity, threshold value of sensor

setting value:

paper size, head voltage value, luminance quantity of sensor

② Reset when shipping product

User establishment value, TOTAL PRINT, ribbon remaining quantity are changed.

Entering Method..... After removing a ribbon cassette and a feed tray, while depressing [PRINT], [STOP], and [MENU] keys simultaneously, POWER switch should be turned on.

Content..... Thermal head position should be set to 1. Following values (they are not adjusted when shipping) are returned to first value.

user establishment value:

each value of COLOR ADJUST

printer condition:

ribbon remaining quantity, each error information TOTAL PRINT.

③ TOTAL PRINT reset

Total printing quantity of thermal head is returned to 0. When replacing thermal head, this reset should be performed.

Entering Method..... Total printing quantity is indicated from TOTAL PRINT item in service mode.

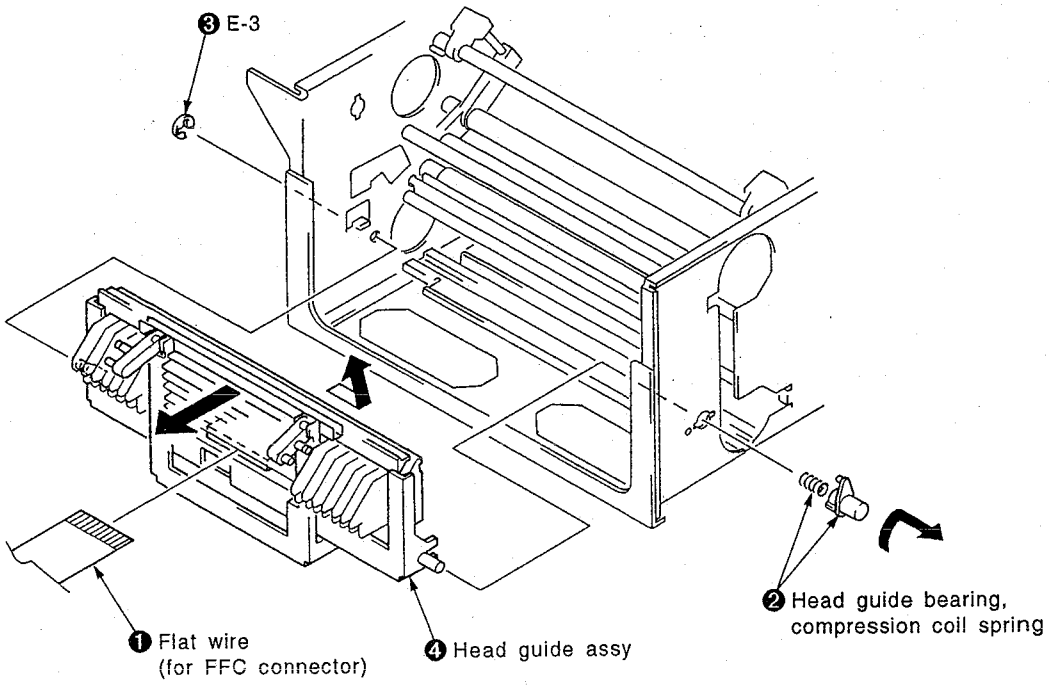
```
TOTAL=10057
```

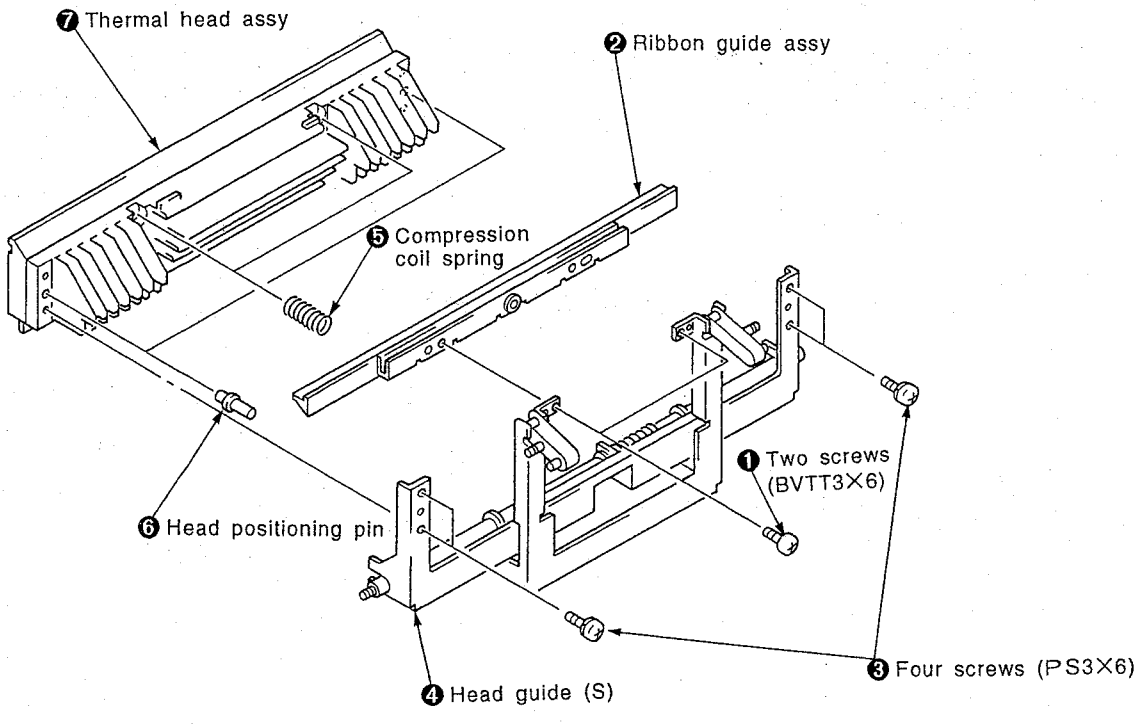
After that, [↑], [↓] and [PRINT QTY] keys should be depressed simultaneously.

9-5. PROCESS ORDER WHEN REPLACING EACH PART

9-5-1. When Thermal Head Replacing

① Replacing order





② Resistance value data ROM replacement
This unit has a resistance value data ROM against the each thermal head. After thermal head replacement, IC209 on the SY-12 board should be changed to new ROM attached.
③ TOTAL PRINT Reset
According to the Item 4, TOTAL PRINT quantity should be reset.
④ Printing check
Entering in service mode, test pattern printing is performed. Ensure the following items.

- Is density of each steps the most suitable?
  If density is not suitable, entering the setting mode, head voltage should be finely adjusted.
- Is there unevenness density toward the thermal head element?
  Resistance value data ROM should be inserted. Attachment of the thermal head should be checked.

9-5-2. When Replacing EEPROM or MEC-2 Board

When replacing EEPROM or MEC-2 board (that has EEPROM), content of EEPROM is indefinite value. Each kind establishment value needed to return at first valve. Adjustments should be needed.
① EEPROM reset
Entering in service mode, EEPROM reset should be performed.
② Adjustments
Entering in setting mode, establishment of letter or A4 size luminance quantity adjustment of three kind of sensors should be performed.
③ Test pattern printing
④ Thermal head fine adjustment
Density of print paper of item ③ should be checked, if necessary, thermal head voltage fine adjustment should be performed.

9-5-3. When Replacing Bar Code, Ribbon Code and OHP Sensors

Entering setting mode, luminance quantity adjustment of sensor replaced should be performed.

9-6. NOTE ON THE UNIT TRANSPORTATION

After repairing operation, following processes should be performed not to damage the unit by vibration while its transportation.
① Ribbon cassette and feed tray should be removed from the unit.
② Entering the service mode, thermal head position should be placed at 1.
③ Power switch should be turned off.

SECTION 10
TROUBLE SHOOTING

10-1. MECHANICAL SECTION

Trouble	Cause	Countermeasure
Feed paper tray is not pulled out.	1 : Printing paper is out of tray. 2 : Push ratch defective. 3 : Feed lever is not returned and is upped.	1 : Remove delivery tray, return the printing paper to the feed paper tray. 2 : Replace the push ratch. 3 : If feed lever drive cam is transformed, replace it. 3 : If feed lever drive cam is bent, replace the mechanism deck.
Ribbon cassette is not pulled out.	1 : Ribbon is removed from ribbon holder. 2 : Head is not upped to the home position.	1 : Set the ribbon to the ribbon holder correctly. 1 : If the ribbon holder is defective, replace the ribbon holder. 2 : If head drive arm is removed, assemble it correctly. 2 : If head drive arm is damaged, replace the head drive axis ass'y.
Printing paper is not out from the tray.	1 : Pick up roller is slipped. 2 : Printing paper curls. 3 : Feed lever is not upped.	1 : Replace the pick-up roller. 2 : Replace the printing paper. 3 : Replace the feed lever ass'y.
Printing papers are sent more than two sheets.	1 : Limiter defective. 2 : Separation roller is slipped. 3 : Printing paper is stuck on somewhere.	1 : Replace the limiter. 2 : Replace the separation roller. 3 : Replace the printing paper.
Printing paper is sent slantly.	1 : Paper guide (S) of feed tray is bent. 2 : Roller is slipped. 3 : Edge sensor defective.	1 : Replace the paper guide (S). 2 : If the pick-up roller is slipped, replace it. 2 : If the feed paper roller is slipped, replace it. 2 : If the separation roller is slipped, replace it. 3 : Correct the edge sensor attached portion of delivery guide (B). 3 : Replace the edge sensor. 3 : Replace the delivery guide (B).
Printing paper is stopped at the halfway of paper feeding.	1 : Head is not upped at correctly position. 2 : Ribbon is not moved. 3 : Printing paper curls. 4 : PATH 0 sensor defective. 5 : Edge sensor defective. 6 : Printing paper is caught up to harness.	1 : If the head drive arm is removed, assemble it correctly. 1 : If the head drive arm is damaged, replace the head drive axis ass'y. 1 : Replace the take up motor. 2 : Replace the take up motor. 3 : Replace the printing paper. 4 : Replace the PATH 0 sensor. 5 : Replace the edge sensor. 6 : Dress the harness correctly.
When feeding the paper, printing paper is bent.	1 : Printing paper curls.	1 : Replace the printing paper.
Printing paper is stopped at halfway of printing.	1 : Ribbon is rolled up. 2 : Ribbon is stuck on.	1 : Replace the take up motor. 2 : Replace the SY board.

Trouble	Cause	Countermeasure
Printing paper is stopped at halfway of rewinding paper.	1 : Color is not registered. 2 : Printing paper is shorter than ordinary paper. 3 : Ribbon is stuck on printing paper 4 : Printing paper is stuck on feed paper guide. 5 : Size sensor defective. 6 : Setting of letter and A4 size is difference.	1 : Refer to "Misregistration color in print". 2 : Replace the printing paper. 3 : Replace the take up motor. 3 : Replace the supply motor. 3 : Replace the SY board. 4 : Replace the feed paper guide. 5 : Replace the size sensor. 6 : Reset the paper size.
When delivering the paper, printing paper is stopped.	1 : Ribbon is stuck on the paper. 2 : Printing papers heaps at delivery exit.	1 : Replace the take up motor. 1 : Replace the supply motor. 1 : Replace the SY board. 2 : Remove the printing paper.
Ribbon is rolled up.	1 : Take up motor defective.	1 : Replace the take up motor.
Improper head contact.	1 : Defective of head attachment. 2 : Platen defective. 3 : Head drive arm defective. 4 : Head guide (S) defective. 5 : Heat sink defective.	1 : Head should be attached correctly. 2 : Replace the platen. 3 : If the head drive arm is removed, assembly it correctly. 3 : If the head drive arm is damaged, replace the head drive axis ass'y. 4 : Replace the head guide (S). 5 : Replace the heat sink.
Unevenness color in print.	1 : Platen defective.	1 : Replace the platen.
Horizontal toward unevenness density in print.	1 : Head defective.	1 : Replace the head.
Horizontal line in print.	1 : Dust is attached to the head. 2 : Head defective.	1 : Clean the head with a soft cloth dampened with ethyl alcohol. 2 : Replace the head.
Vertical line in print.	1 : Ribbon is slipped. 2 : Pulley or gear defective. 3 : Supply motor defective.	1 : Replace the ribbon. 2 : Replace the pulley or gear. 3 : Replace the supply motor.
Misregistration color in print.	1 : Ribbon tension setting is not correctly. 2 : Take up motor defective. 3 : Supply motor defective. 4 : Grease of take up side worm gear is short. 5 : Paper is sent slantly. 6 : Edge sensor defective. 7 : Rubber of capstan is clogged. 8 : Ribbon defective.	1 : The tension should be set correctly. 2 : Replace the take up motor. 3 : Replace the supply motor. 4 : Supply the grease. 5 : Refer to "Printing paper is sent slantly". 6 : Correct the edge sensor attached portion of delivery guide (B). 6 : Replace the delivery guide (B). 7 : Clean the capstan. 8 : Replace the ribbon.
Frill in print.	1: Ribbon tension setting is not correctly. 2: Ribbon defective.	1: The tension should be correctly. 2: Replace the ribbon.

10-2. ELECTRICAL SECTION

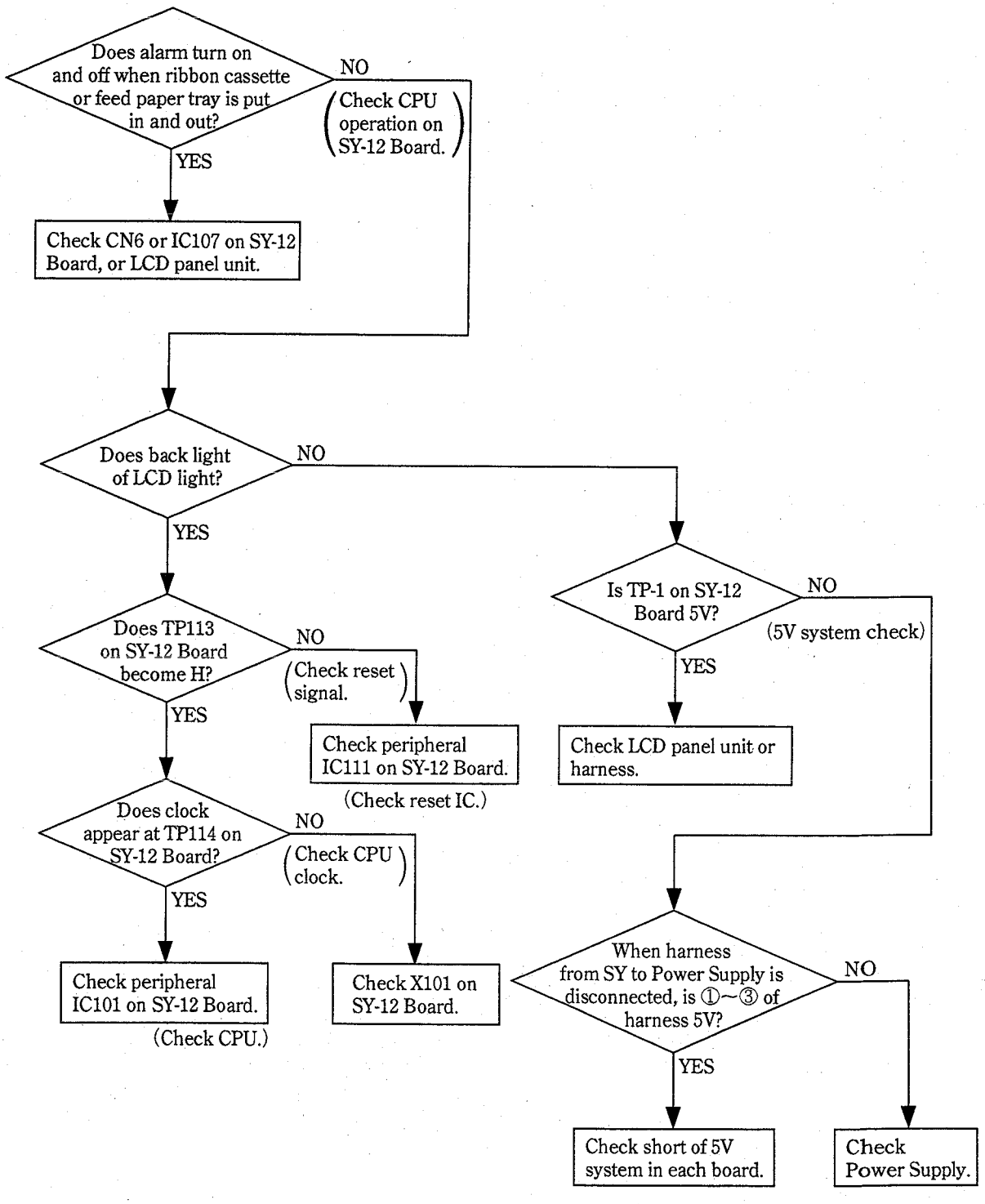
- The unit has self diagnosis function. If the unit can be entered in service mode, perform self diagnosis (See service mode.)
- If error indicating is appeared, See SY-12 and MEC-2 boards circuit operation description.

1. When turning on power switch and establishing modes.
   1) After power switch is turned ON, the indication is not appeared in the liquid crystal.
   2) Liquid crystal indication "DIGITAL COLOR PRINTER UP-D8800" are not changed.

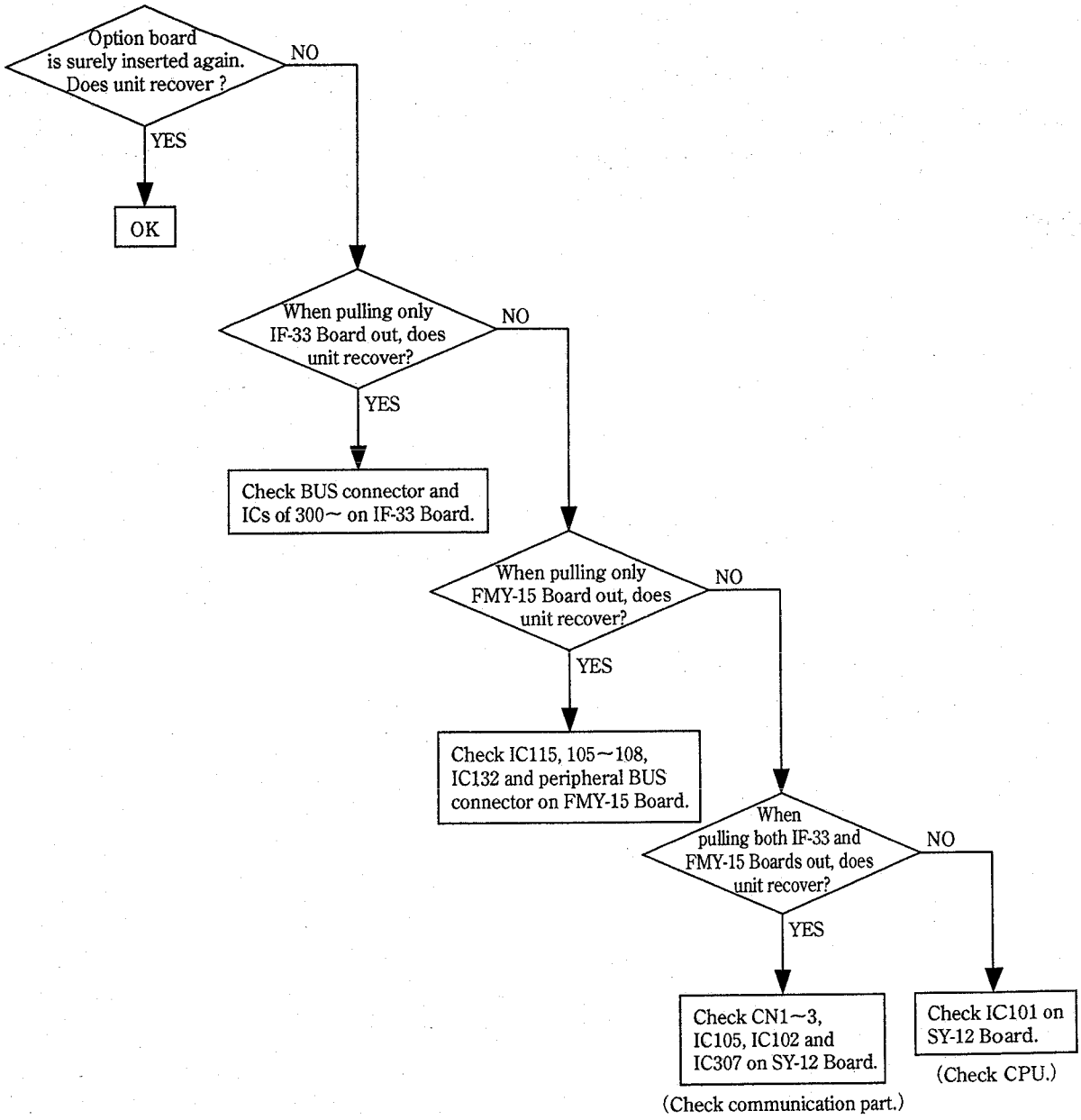
2. When connecting with computer.
   1) The unit is not recognized the MAC.
   2) Only poor print from MAC (Test pattern print is normal.)

3. When printing
   1) Printing operation is done, but nothing is printed.
   2) Misregistration of print.
   3) There is a horizontal white line and data failure.

After power switch is turned ON, the indication is not appeared in the liquid crystal.



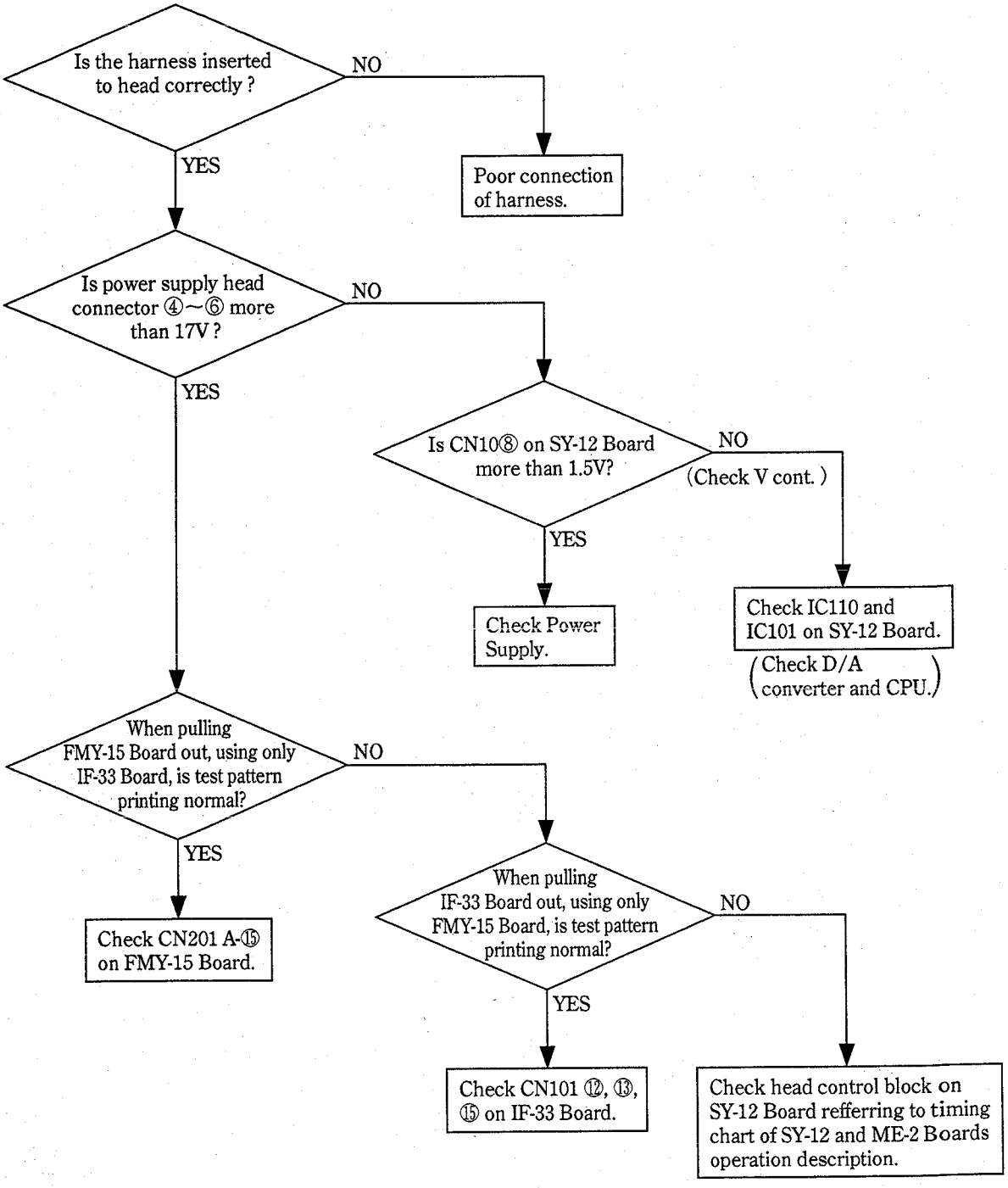
Liquid crystal indication | DIGITAL COLOR PRINTER UP-D8800 | is not changed.



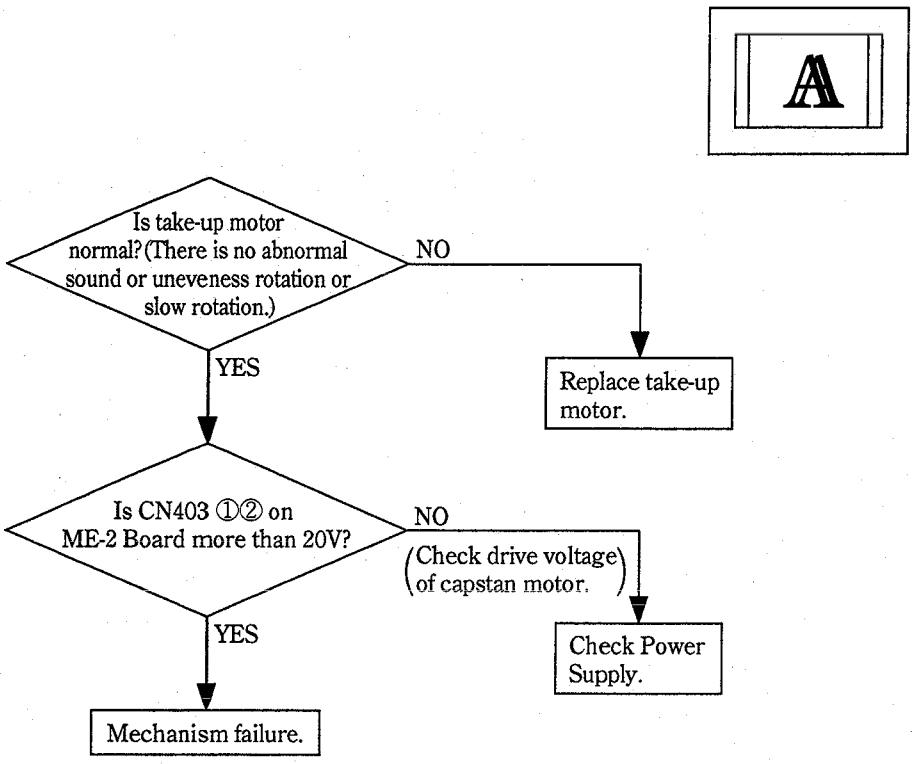
The unit is not recognized the MAC.
Check S300, peripheral IC301 and peripheral IC400~ on IF-33 board.

Poor print only from MAC (Test pattern print is normal.)
Check on IF-33 Board. IC400 ㊸~㊾
IC105 ①~⑨, ⑲
IC206 ①~⑨, ⑲
IC401
IC402 ①~⑥

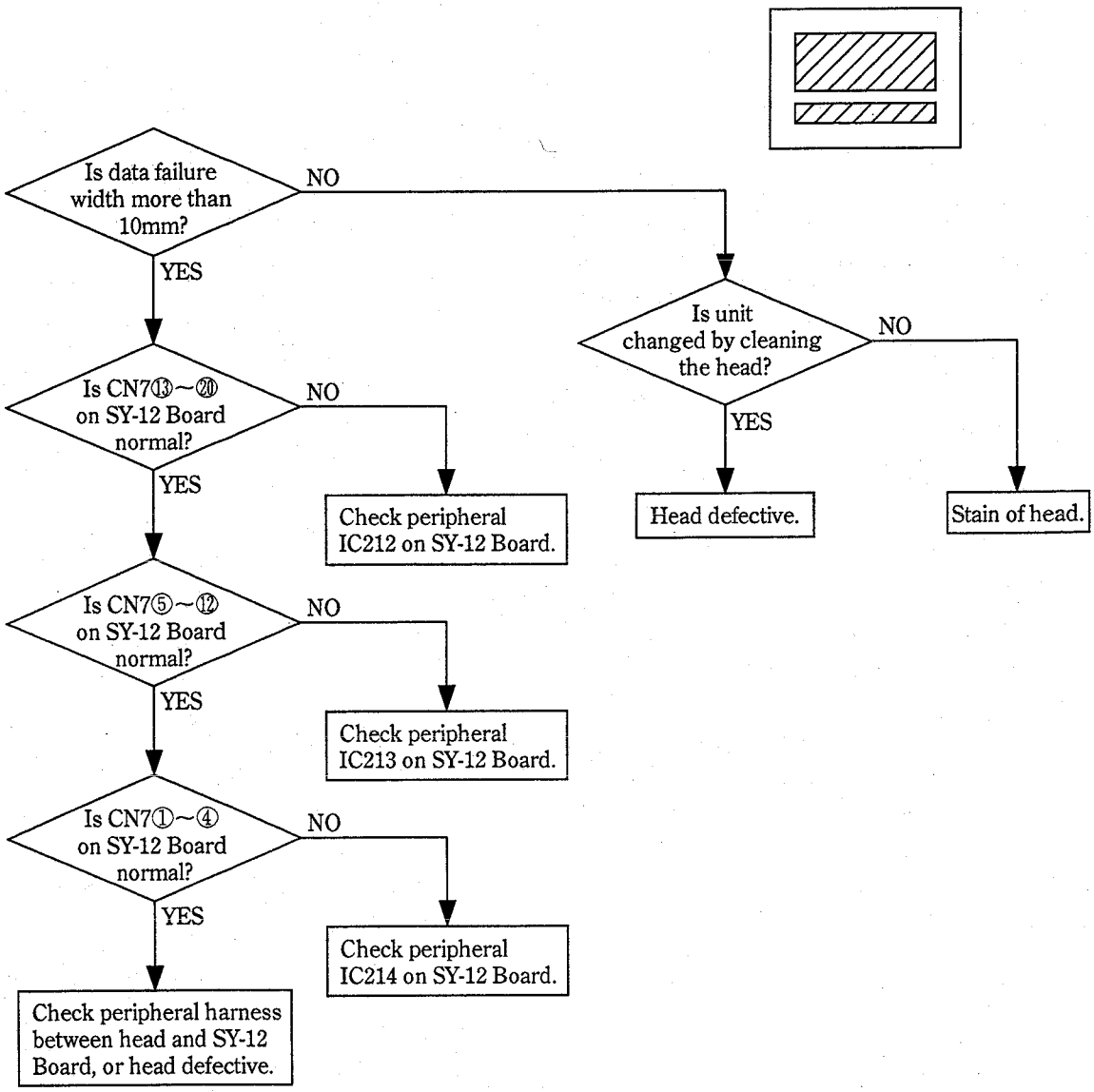
Printing operation is done, but nothing is printed.



Misregistration of print.



There is a horizontal white line and data failure.

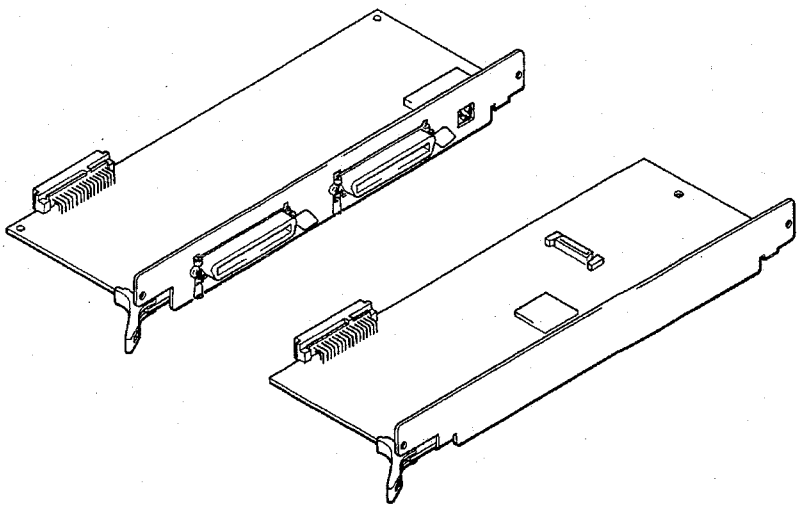


SONY

SCSI INTERFACE KIT

UPK-8800SC

SERVICE MANUAL



SAFETY RELATED COMPONENT WARNING

Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. SPECIFICATIONS

Memory capacity	10 Mbytes 4,096 x 2,560 x 8 bits
Digital interface	SCSI-1 channel Amphenol 50-pin connector x 2
Accessories	SCSI interface board (1) Memory board (1) Screws (4) Double-density floppy diskette (3) High-density floppy diskette (3) User registration card (1) Software license agreement (1) Instructions for Use (1)

Design and specifications are subject to change without notice.

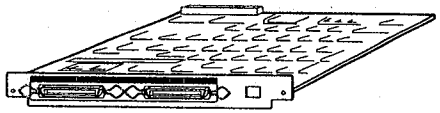
1-2. ABOUT THE SCSI INTERFACE KIT

The UPK-8800SC SCSI Interface Kit consists of the hardware and software necessary to connect and use the UP-D8800 digital color printer with your computer, via the computer's SCSI bus. Using this kit allows you to print documents from your application software on the UP-D8800. The kit includes the following:

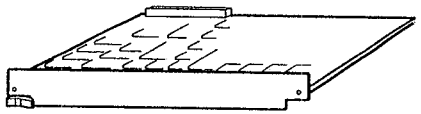
- SCSI Interface Board for the UP-D8800 printer
- Memory Board for the UP-D8800 printer
- Printer driver software for using the UP-D8800 with Macintosh computers
- Printer driver software for using the UP-D8800 with Windows 3.1
- Photoshop plug-in software modules for using the UP-D8800 with Photoshop (for Macintosh and Windows).

1-3. KIT CONTENTS

Please confirm that your kit contains all of the following items:



- SCSI Interface Board



- Memory Board

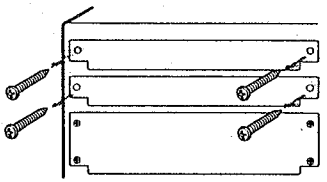
- Four mounting screws
- Three 2DD floppy disks (Windows software)
- Three 2HD floppy disks (Macintosh software)
- User registration card
- Software license agreement

1-4. INSTALLING THE BOARDS

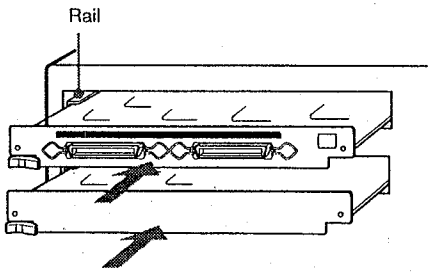
Perform the following steps to install the SCSI Interface Board and the Memory Board in the expansion slots in the back of the UP-D8800.

> **Note:**
> Be sure to unplug the UP-D8800 from the AC mains before beginning the installation.

1 Remove the screws from both sides of the UP-D8800 expansion slot covers and remove the slot covers.



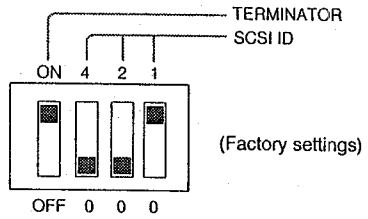
2 Fit the SCSI Interface Board and the Memory Board into the card edge rails and slide the boards all the way into the UP-D8800.



3 Fasten each board in place using the screws provided with the kit.

1-5. SETTING THE DIP SWITCH

The DIP switches on the panel of the SCSI Interface Board determine the on/off state of the internal SCSI bus terminator and the SCSI device ID number. As shipped from the factory, the DIP switches are set up as follows:



Terminator ON/OFF setting
If the SCSI Interface Board is located at the physical end of the SCSI bus, this switch should be set to ON. Otherwise, if another device is at the end of the bus, this switch should be OFF.

Switch	ON	OFF
Terminator	The internal terminator is ON.	The internal terminator is OFF.

SCSI ID Setting
The SCSI ID selection must be different from any other device on the bus. If two SCSI devices have the same ID, a malfunction will occur.

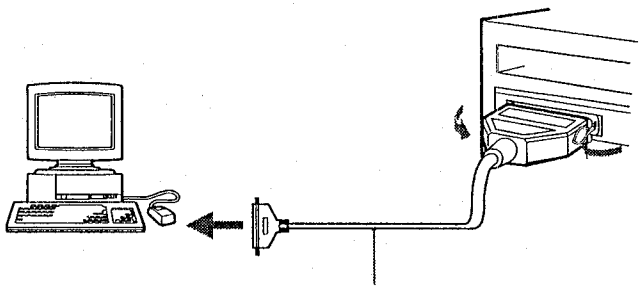
SCSI ID	SCSI ID Switch		
	4	2	1
0	0	0	0
1	0	0	1
2	0	2	0
3	0	2	1
4	4	0	0
5	4	0	1
6	4	2	0
7	4	2	1

(Factory settings)

1-6. CONNECTING THE COMPUTER

The UP-D8800 connects to your computer's SCSI peripheral interface bus.

Note:
- Before connecting the SCSI cable, make sure to turn off the power switches on your computer and any peripheral equipment.
- Grasp the connector at the end of the SCSI cable, and firmly insert it into the socket.
- The total length of the SCSI cabling used with a single-host computer should be less than 6 meters.



SCSI Cable (Sony MOA-C08 or equivalent)*

*** Note:**
SCSI cable connection requirements can vary between different computers and peripherals. For the details of your installation, please refer to the manuals for your computer and peripherals.
When connecting the printer to Apple Macintosh II series computers, use the M0206 Apple SCSI cable or equivalent.

Switching Power On

You should switch on all peripheral devices before turning on your computer. Particularly, make sure that all SCSI peripherals are switched on first.

1-7. BEFORE USING THE MACINTOSH SOFTWARE

System Environment

The Chooser Level Driver and Photoshop plug-in module require a Macintosh equipped as follows:
- The Macintosh must be able to support 32-bit Color QuickDraw
- At least 8 Mbytes of free memory
- At least 30 MBytes free space on the hard drive
- Macintosh System 7.1 or later.

The speed of the driver depends on the amount of available memory, so the more memory you have available when you print, the better the printer driver will perform.

* If the Add-on Memory Kit UPK-8801 is not used, better driver performance can be obtained by reserving at least 20 MBytes of free space in the disk that the Photoshop plug-in folder resides.

1-8. CHOOSER LEVEL DRIVER

The Chooser Level Driver allows application software to print to the UP-D8800 using the standard printing functions of the application.

Installing the Chooser Level Driver

The following procedure describes installation of the Chooser Level Driver.

1. Insert the supplied floppy disk labeled "Macintosh Chooser Level Driver DISK 1" into the floppy disk drive of the Macintosh.
2. Double click the disk icon to open the drive window.
3. Double click the "Japanese" folder if you will be printing in Japanese, or the "English" folder if you will be printing in English.
4. Drag the UP-D8800 icon to the System Folder (this file installs itself in the Extensions folder).
5. If you plan to do background printing, copy the UP-D8800.Background file to the hard disk (it is not necessary to put it in the System Folder).
6. Insert the supplied floppy disk labeled "Macintosh Chooser Level Driver DISK 2" into the floppy disk drive of the Macintosh.
7. Double click the disk icon to open the drive window.
8. Drag the UP-D8800.ColorTable icon to the System Folder.

Printing

Selecting the UP-D8800

The first time you print with the UP-D8800 you need to use the Chooser, but afterwards the UP-D8800 will be selected automatically, unless you choose another printer.

1 From the Apple menu, select "Chooser".
The Chooser window is displayed.

2 Select the UP-D8800 icon displayed in the frame at the left side of the window.
The UP-D8800 name is displayed in a list box at the right side of the window.

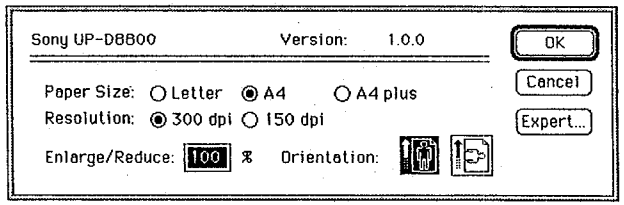
3 Select the UP-D8800 in the list box.
The SCSI address of the connection is displayed.

4 Close the Chooser window.

Page Setup

Page Setup selects the paper size, printing quality (resolution), and amount of enlargement or reduction. You can change the settings before you start printing, and when necessary, you can change the amount of enlargement or reduction during the print process.

1 Select "Page Setup" from the File menu.
The Page Setup dialog box is displayed.



2 Select the desired items in the dialog box. See the descriptions below for the meaning of each Setup item.

3 Confirm your Page Setup selections, and click OK.
The dialog box closes.

Page Setup Dialog Box Items
Each item in the Page Setup dialog box is described below.

- **Paper Size**
  Select from the following sizes: Letter Size, A4 Size and A4+ (plus) Size

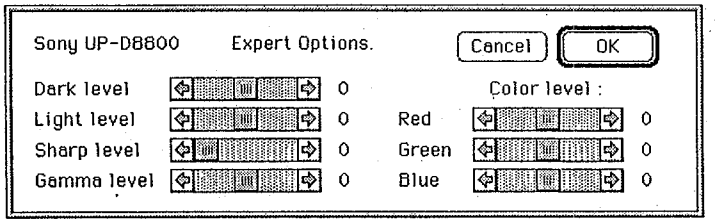
- **Resolution**
  Select a resolution for printing: 150 dpi (dots per inch) or 300 dpi

> **Note:**
> On A4+ size paper, the file size for a 300 dpi image is approximately 27 Mbytes, and the file size for a 150 dpi image is approximately 7 Mbytes.

- **Enlarge/Reduce**
  Enter the desired percentage of enlargement or reduction from the keyboard. You can enter any (positive) integer value from 25 to 400%. If you are working with a software image that is larger than the paper size in the printer, you can select a reduction percentage that will allow the image to print on the available paper. Your selection is applied both vertically and horizontally to the page image. So, for example, if you enter 200%, the printed image will be twice as high, and twice as wide, as normal. That is, it will occupy four times the area that it would normally (at 100%).

- **Orientation**
  Select whether your pages should print in portrait (tall, the default) or landscape (wide) format.

- **Expert...**
  This displays the "Expert Options" dialog box, from which you can select from the following printing options:



- **Contrast and Color Levels**
  The Dark and Light level sliders adjust the contrast of the printed output. The Dark level slider adjusts the black level, and the Light level slider adjusts the white level. The range is from -32 to +32.

  The Sharp level slider adjusts the degree of emphasis of edges in the printed output. The range is from 0 to +3.

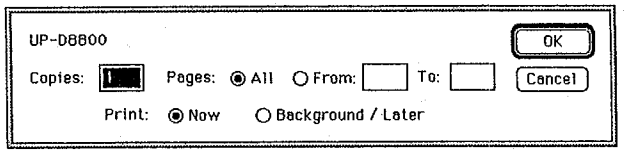
  The Gamma level slider adjusts the contrast curve. The range is from -32 to +32.

  The Color level sliders adjust the level of each color. The range is from -32 to +32.

Printing

Follow this procedure to print with the UP-D8800 from an application.

1 Choose "Print" from the File menu.
  The Print dialog box is displayed.



2 Select the desired items in the dialog box. See the descriptions below for the meaning of each Print item.

3 Confirm your selections, and click OK.
  Printing begins.
  Click Cancel if you want to stop printing before the task is completed.

Print Dialog Box Items
Each item in the Print dialog box is described below.

- **Copies**
  Set the number of copies you want to print of each page (if more than one). A maximum of 20 sheets can be printed at once.

- **Pages**
  Select which page(s) to print.
  "All" prints every page of the document that is opened in the application.
  "From" and "To" let you enter from the keyboard the page numbers of the starting and ending pages you wish to print.

- **Print**
  Select the method of timing (priority) of the print job.
  "Now" causes printing to begin immediately in the foreground when you click OK.
  "Background/Later" causes printing to begin in the background when you click OK.

Background Printing

Printing "Now" in the foreground gives the printer driver the full use of your computer's processor while printing, so you cannot do any other work in the foreground until the printing job is finished (or canceled).
Background printing, however, allows you to do other work in the foreground while the printer is working. For example, while printing a slide image in the background, you could be writing a manuscript for an announcement at the same time.

■ System Requirements for Background Printing

The supplied UP-D8800.Background software is necessary for background printing. (See page 14.) This program works together with the Chooser Level Driver. In addition to the requirements explained on page 14, the following conditions must be satisfied.

- Enough free space on the hard disk for the document image (the amount of space depends on the size and type of the document.)

■ Summary of Action

When you initiate printing from an application while UP-D8800.Background is active, a copy of the document called a spoolfile is written to the hard disk. If foreground ("At Once") printing is selected, once printing begins, no other foreground activity is possible until printing finishes. With background printing, on the other hand, you can continue working in other applications as soon as the spool file has been written to the hard disk.
When the print job is finished, the spool file is deleted automatically.

1-9. PHOTOSHOP PLUG-IN MODULE OPERATION

The Photoshop plug-in module allows the UP-D8800 to print images from the Photoshop application. The plug-in module allows color calibration of printer output, adjustment of image printing size and printing conditions for graphics.
Installation and use of the Photoshop plug-in module is described here.

Installing the Plug-in Module

This procedure describes installation of the plug-in module for the Macintosh.

1 Insert the supplied floppy disk labeled "Printer Plug-In Module for Macintosh" into the floppy disk drive of the Macintosh.

2 Double click the disk icon to open the drive window.

3 Copy the "UP-D8800.ColorTable" file by dragging its icon to the Plug-ins folder in the Photoshop folder.

4 Double click the Japanese folder to use Japanese, or the English folder to use English.

5 Copy the "UP-D8800 Export" file by dragging its icon to the Plug-ins folder in the Photoshop folder.

Note:
To activate the plug-in module, you must restart Photoshop after installation.

Printing an Image

When you print an image, the image file must be opened in Photoshop before opening the main dialog box of the plug-in module.

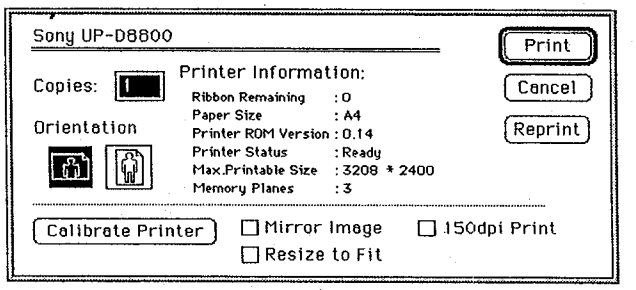
Main Dialog Box Display

To print an image, display the main dialog box with the following procedure.

1 Double click the Photoshop icon to start Photoshop.

2 Open the image file that you want to print. The printer software supports 3-channel RGB and 1-channel grayscale.

3 Choose "Export" in the File pull-down menu, then choose "Sony UP-D8800 Export..." from the submenu.
The main dialog box for the Sony UP-D8800 is displayed.



Note:
If the printer is off or the SCSI cable disconnected, the following message is displayed:
"No response from UP-D8800."
Please confirm that the printer is switched on and the cable is connected.

Main Dialog Box Items

The main dialog box lets you check and adjust the condition of the image data and the printer.

Copies
Select the number of copies you want to print. A maximum of 20 sheets can be printed at once. This setting is fixed to one unless the printer is equipped with the UPK-8801 add-on memory kit.

Orientation
Select whether your pages should print in Portrait (tall) or Landscape (wide) format. The correct button is selected by default, but you may override this if you desire.

Printer Information
Information on the current state of the printer is displayed. When the Printer Status displays Ready, you can print. Other possible states are: Check Paper Tray, Check Ribbon Cassette and Out of Paper.
Other printer information displayed is the number of sheets that can be printed with the remaining length of the ribbon, the currently selected paper size, the ROM version of the printer, the largest possible printing size (in pixels), and the number of frames in memory.

Mirror Image
To print a mirror image (left-right reversed), check here.

150 dpi Print
Check here to change output resolution to 150 dpi. Selecting 150 dpi Graphics increases the maximum size of an image that can be printed.

Resize to Fit
When selected, this option adjusts the size of the printed image to the maximum size printable by the UP-D8800. This option is available only when the printer is equipped with the UPK-8801 add-on memory kit.

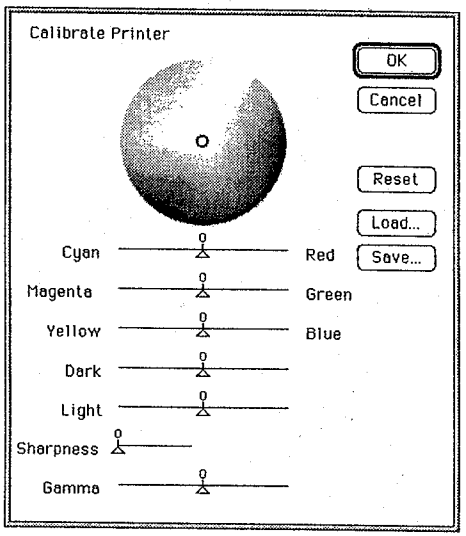
Print
Start printing the image.

Cancel
Click here to close the dialog box with no changes.

Reprint
Click here to print another copy of the same image that was just printed (and stored in memory). This button is effective only when the printer is equipped with the UPK-8801 add-on memory kit.

Calibrate Printer
Click this button to bring up the Color Calibration dialog, to adjust the way the printer handles color, contrast and sharpness properties of the image. This option is available only when the printer is equipped with the UPK-8801 add-on memory kit.

Calibration Dialog Box



Parameter Range

Cyan-Red	-32 ~ +32
Magenta-Green	-32 ~ +32
Yellow-Blue	-32 ~ +32
Dark	-32 ~ +32
Light	-32 ~ +32
Sharpness	0 ~ +3
Gamma	-32 ~ +32

Button Functions
The functions of the buttons are as follows:

- **OK**
  Send the displayed settings to the printer.

- **Cancel**
  Return to the Main dialog box. Any changes to the parameters are ignored.

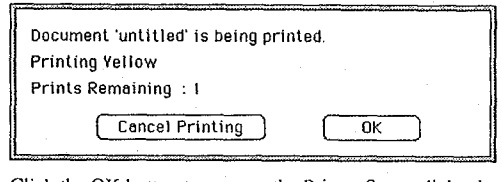
- **Reset**
  Return all parameter settings to their initial values.

- **Load**
  Load a set of calibration parameters that has been previously saved to disk.

- **Save**
  Save the current paramcter settings to disk.

■ Printer Status Dialog Box

After you choose "Sony UP-D8800 Export..." from the "Export" menu selection and begin printing, the Printer Status dialog box is displayed. This dialog shows the current status of the printer.
You can stop the print job and eject the page by clicking "Cancel Printing" button.



Click the OK button to remove the Printer Status dialog box and return to the Photoshop window.
If you want to cancel printing when the Printer Status dialog box is not displayed, choose "Sony UP-D8800 Export..." from the "Output Device" menu, to bring up the Printer Status dialog box, then click "Cancel Printing".

1-10. BEFORE USING THE WINDOWS SOFTWARE

System Environment

■ Required Hardware

- The Windows software requires a personal computer with at least a 386SX-speed processor, capable of running MS Windows 3.1, with the following:
- At least 16 MB of RAM.*
- At least 40 MB of hard disk space.**
- A SCSI host adapter.***
- A Sony model UP-D8800 or UP-D7000 digital color printer.

* Although the software may function in a system with less than 16 MB of RAM, performance is remarkably reduced if there is not enough memory available for image data expansion and processing.

** The Chooser Level Driver generates a file image of the data to be printed from the application, and writes this spool file to the hard disk. The spool file is created in the directory assigned to the Windows TEMP environment variable (defined with the "SET TEMP=" line in the AUTOEXEC.BAT file). If your printer is not equipped with the UPK-8801K add-on memory kit, the plug-in module also creates a spool file in the Windows directory. With the Chooser Level Driver, at least 40 MBytes of disk space will be needed for the spool file; and with the plug-in module, at least 15 MBytes will be needed. If there is not enough space available for the spool files, printing is not possible.

*** The following SCSI host adapters have been determined to be compatible (as of September 1994). Please refer to the READ.ME file for additional SCSI compatibility issues.

- Adaptec models AHA-1542CF, AHA-1522A and AHA-2742T

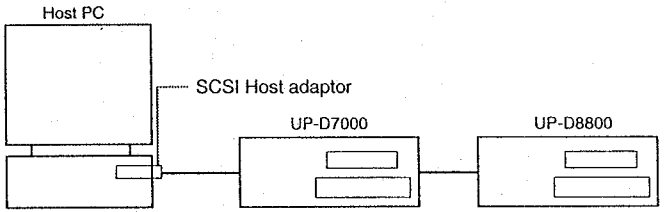
For details of SCSI host adapter installation with your host computer, please refer to your SCSI host adapter documentation.

■ Supported SCSI Configuration

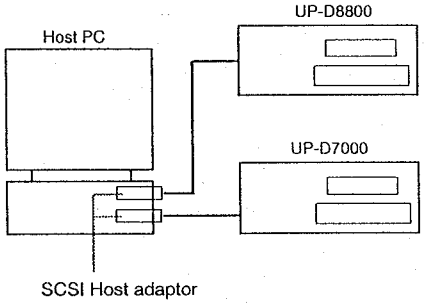
The Chooser Level Driver assumes that the printer is connected to a SCSI bus with a single SCSI host adapter. The software may not function properly on a system in which multiple printers are connected through two or more SCSI host adapters.

Supported Configuration

The following diagram indicates the supported SCSI configuration.



Non-Supported Configurations



■ Software Environment

The following software is required for installation and operation of the Chooser Level Driver:

- Microsoft MS-DOS Version 5.0 or above.
- Microsoft Windows Version 3.1
- Windows ASPI (Advanced SCSI Programming Interface)
- DOS ASPI

1-11. CHOOSER LEVEL DRIVER

The Chooser Level Driver works with Microsoft Windows 3.1 to process printer output from Windows applications, for printing on the digital color printer.

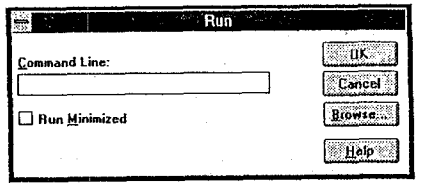
Installing the Chooser Level Driver

This procedure describes installation of the Chooser Level Driver.

1 Turn on the computer and start Windows.

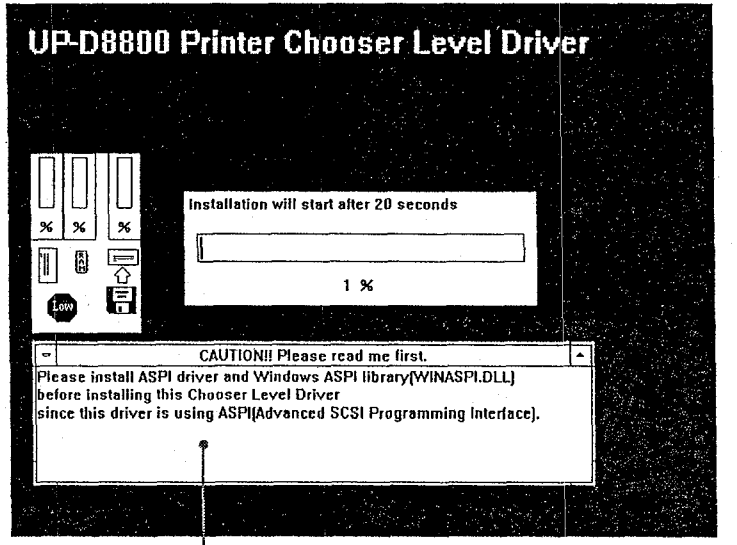
2 Insert the supplied floppy disk labeled "Chooser Level Driver for Windows DISK 1" into the floppy disk drive of the computer. The following assumes that the disk is in drive A. If you have the disk in a different drive (e.g., B), please substitute that letter as appropriate.

3 In the Windows Program Manager, select "Run..." from the File drop-down menu to display the Run dialog box.



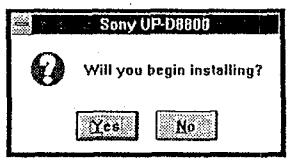
4 Type "A:SETUP" in the text box, and click OK.

Installation begins, and the next window is displayed.



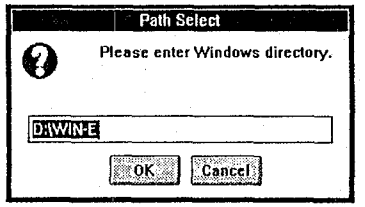
A display appears showing things you should keep in mind when installing the software.
If the window is too small for your display resolution, expand it by dragging the window border with the mouse.

After about 20 seconds, the following dialog box appears:

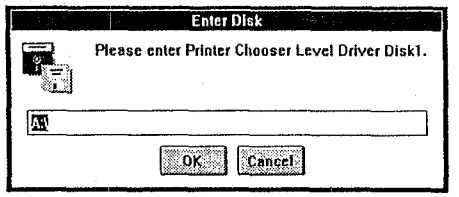


Note:
Setup can also be run from the Windows File Manager.

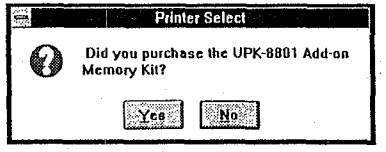
5 If you click Yes, you are asked for the directory in which you have Windows installed.



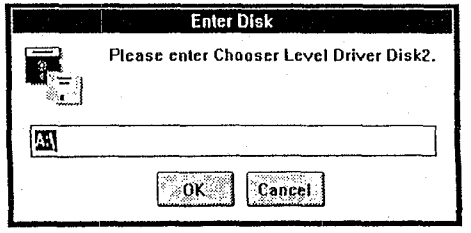
6 Enter the Windows directory.
The following dialog appears.



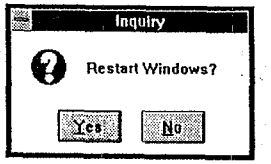
7 Choose OK.
You are then asked whether your printer is equipped with the UPK-8801 add-on memory kit.



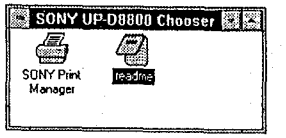
8 Answer appropriately for the printer that you have connected.
Installation proceeds and the next message is displayed.



9 Choose OK.
Installation proceeds until the next message is displayed, as installation ends.



10 Choose Yes.
Windows is restarted, and a new program group, "SONY UP-D8800 Chooser", is displayed in the Program Manager.



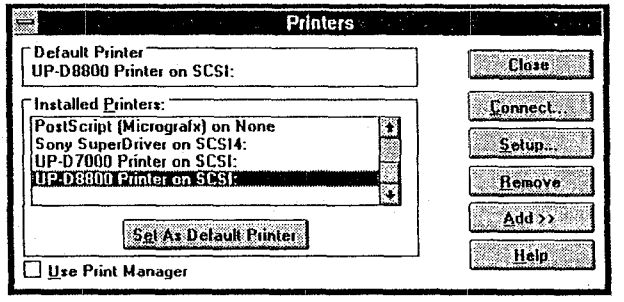
This completes the installation.

Printing

■ Printer Setup

After installation, you need to set up the printer.

1 Open the Control Panel in the Main group, and choose the Printers applet.
The Printers setup dialog is displayed.



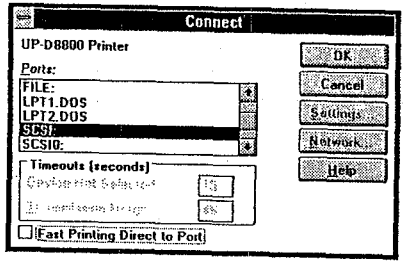
2 Select "UP-D8800 Printer on SCSI :" from the list of printers.

3 If the "Use Print Manager" check box is checked, click it so that it is now unchecked.

4 Click the "Set As Default Printer" button.

5 Refer to the information on the following pages to set up the printer connection and other printer settings:

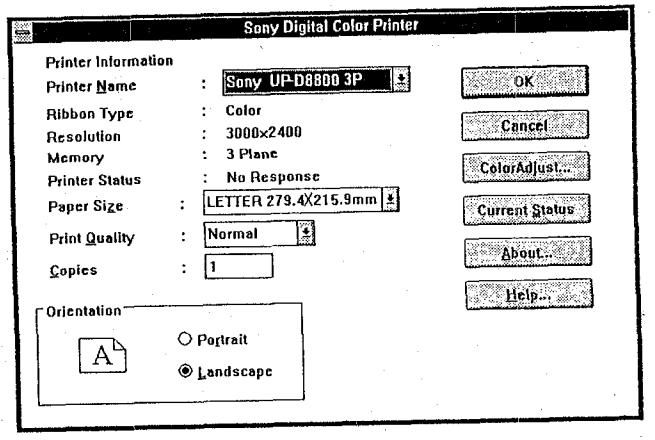
- **"Connect..." button**
If using multiple printers, press this button to display the following dialog, to select the printer port and time-out settings.



During the installation procedure, the "SCSI:" port is selected. This selection allows the Print Manager supplied with this Kit (see page 42) to search the SCSI bus IDs, beginning with SCSI ID 0, for the first printer on the bus (the one with the lowest SCSI ID).
You can specify a particular SCSI ID to use the printer that has that ID number.

> **Note:**
> If both the UP-D8800 and the UP-D7000 are connected to your system, be sure to specify the SCSI ID.

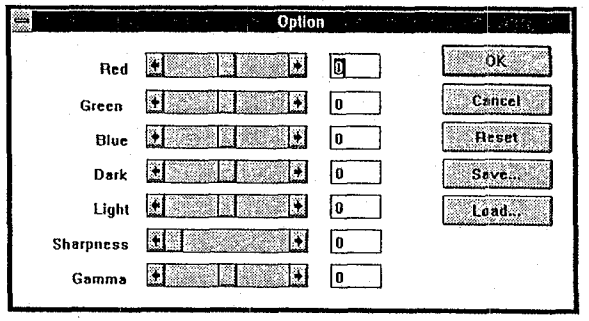
- **"Setup..." button**
  You can press this button to display the following dialog, to select print paper size, orientation and image settings.
  This dialog is displayed:



Here you can assign a name for the printer, paper size and orientation, printing quality (UP-D8800 only) and the number of copies to print. Except for the printer name, the rest of these settings are usually made when printing from an application program.

> **Note:**
> In the Printer Name box, select UP-D8800 3P if your printer is equipped with the UPK-8801 Add-on Memory Kit; otherwise, select UP-D8800 1P.
> Pressing the Current Status button automatically sets the correct printer selection in the Printer Name box.

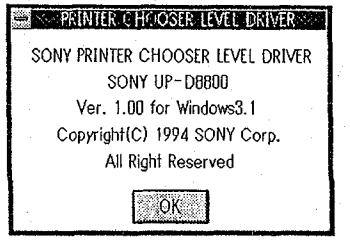
- **ColorAdjust... Button**
  Press this button to display the following dialog, in which you can adjust printer color rendition. This option is available only when using a UP-D8800 that is equipped with the UPK-8801 add-on memory kit.



Red, Green and Blue sliders adjust the level of each color in the printed output. Range is from -32 to +32.
The Dark and Light sliders adjust the black and white levels, respectively. The range is from -32 to +32.
The Sharpness slider adjusts the degree of emphasis of edges in the printed output. (UP-D8800 only). The range is from 0 to +3.
The Gamma level slider adjusts the contrast curve. This function is available only when using the UP-D8800. The range is from -32 to +32.

- **Current Status Button**
  Press this button to interrogate the printer for its current paper size, color adjustment and status.

- **About... Button**
  Press this button to display the version information of the Chooser Level Driver, as follows:



■ Printing

Printing is started by selecting the Print command from the File menu inside a Windows application. Most applications provide access to a Printer Setup dialog that allows you to select appropriate settings, such as the number of copies to print and page orientation, for the application. However, these settings can also be made from the Printers dialog in the Windows Control Panel (page 37) if they are not available from an application's menu.
When installed as described above, the Print Manager supplied with this Kit runs automatically. The functions of this Print Manager are described below.

> **Note:**
> While data is being sent to the printer, "READY" and "IMAGE TRANSFER" are displayed in rapid alternation. Although this may make it difficult to see the cursor, it is not a sign of any malfunction.

Print Manager

The Print Manager provides the following services:

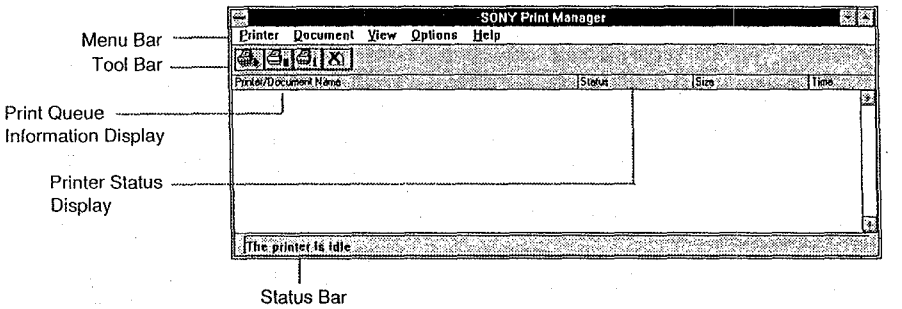
- Lists print jobs waiting in queue.
- Allows pausing and resuming a print job.
- Allows deleting print jobs from the queue.
- Allows changing the printing speed.
- Displays the printer status.
- Allows changing the display layout.
- Provides a printer status monitor window.

The above functions are basically the same as those of the MS-Windows 3.1 Print Manager. However, this Print Manager has the following limitations not present in the Microsoft Print Manager:

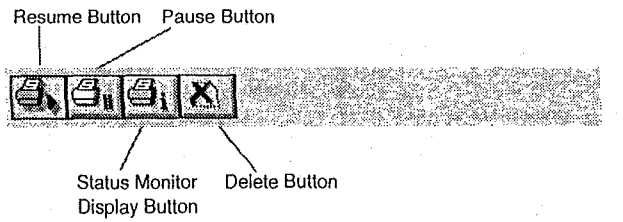
- Printing through MS-DOS is not supported. If you select "High Speed Printing", the speed does not change.
- The order of print jobs in the queue cannot be changed.
- Network print management is not supported.

■ Print Manager Window

The Print Manager window appears as below.



Each button on the tool bar appears as follows:



The menu functions are:

- **Printer**
  Under this item you can Pause or Resume a print job, or End (clear the print queue).

- **Document**
  Delete a print job from the queue.

- **View**
  Here you can change the way items appear in the Print Manager window, and start the Status Monitor.

- **Options**
  Here you can select whether to display the tool bar and status bar, select the display font, change the width of display columns, and select printing speed.

Pause Printing

To pause printing:

1 Select the job that is currently printing from the queue list.

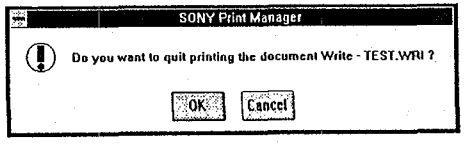
2 Choose Pause from the tool bar or Printer menu.
The flow of image data to the UP-D8800 stops.
Choose Resume from the Printer menu or tool bar to resume printing.

Deleting a Print Job

Queued or paused print jobs can be deleted from the queue, as follows:

1 Pause printing, and select the file to be deleted from the queue list.

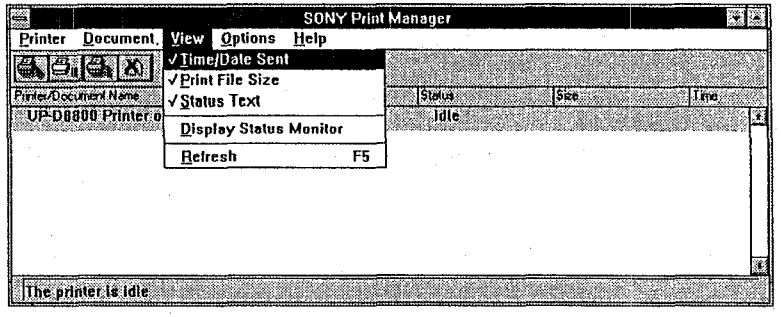
2 Choose Delete from the Document menu or tool bar.
The confirmation dialog below appears.



3 Click OK to delete the job.

Print Manager Display Setup

You can select which items to display in the Print Manager window, as follows:



- **Time/Date Sent**
  You can choose whether to display the creation time and date of files in the print queue, and their percentage of completion. Uncheck this box if you do not want this information to be displayed.

- **Print File Size**
  Leave this box checked to display the file size of each print job in the queue.

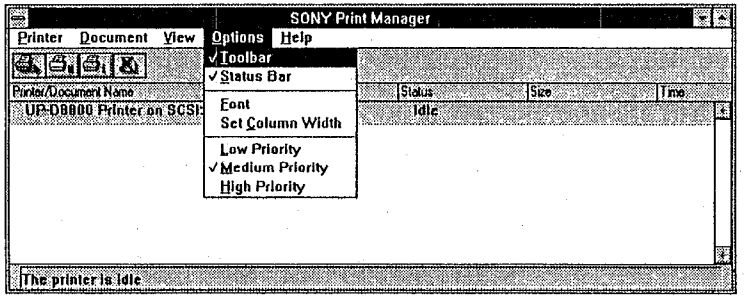
- **Status Text**
  Leave this box checked to display the current state of the printer on the Print Manager window.

- **Display Status Monitor**
  Leave this box checked to display the Status Monitor window.

- **Refresh**
  Click here to redisplay the Print Manager window with any changes you have made.

■ Options

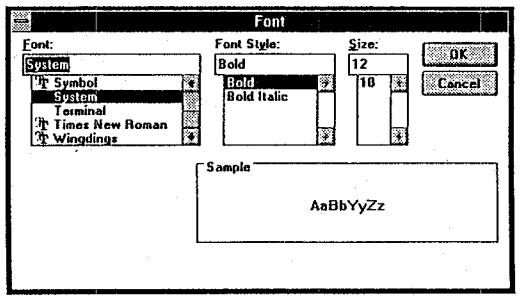
This menu item lets you set up various options.



- **Tool Bar**
  Choose whether to display the tool bar.

- **Status Bar**
  Choose whether to display the status bar.

- **Font**
  You can select a screen font for the Print Manager queue, as follows:



  Select a font name, style and size, and choose OK.

- **Set Column Width**
  You can set the width of the Print/Document Name column.

■ Printing Speed

You can select the printing speed by choosing its priority.
Choose Low Priority if you want an application program to take priority over printing. Data will be sent to the printer while the application is idle (such as when awaiting user input).
Choose Medium Priority to have applications and the printer share equal priority.
Choose High Priority to have the printer take the highest priority (fastest printing).

■ Help

Select the desired menu item to see the Windows help screens for the Print Manager.
Select the About menu item to display version information on this Print Manager.

■ Closing the Print Manager

To close the Print Manager:
If the Print Manager window is open, choose Close from the Printer menu.
If the Print Manager is iconized, click on the icon, and choose Close.

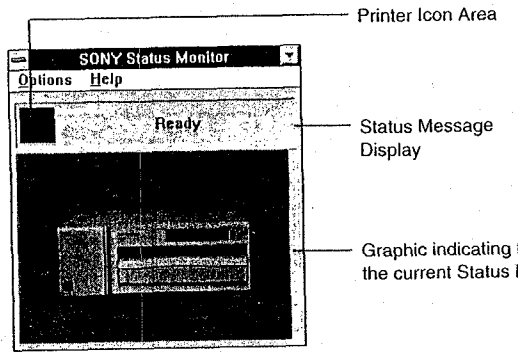
Status Monitor Window

The Status Monitor Window is displayed in the following situations:

- If a printer error occurs.
- If you choose the Printer Status Display button on the Print Manager tool bar, or if you choose Status Monitor Display from the Display menu of the Print Manager.
- If you have previously selected "Always Display During Printing" from the Status Monitor Window (Status Monitor Option Setup dialog).

■ Status Monitor Window Display

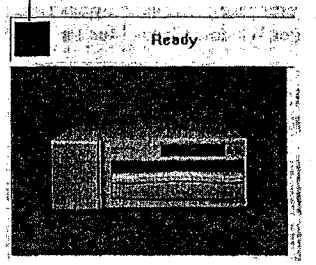
• The Status Monitor window looks like this:



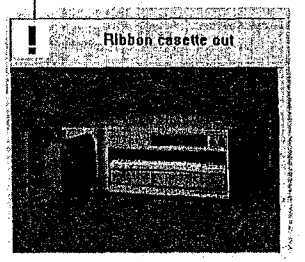
The function of each window region is as follows:

- **Icon Area**
  One of the following icons indicates the current error status.

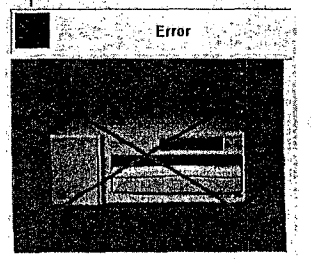
No Errors



Warning Level Error



Fatal Error

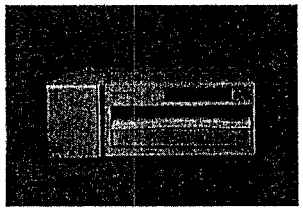


• **Status Messages**
A status message indicates the current error state.

Error Condition	Status Message
No Error	Ready Printing
Warning Level	Paper tray out Paper cover out Ribbon cassette out Paper end Ribbon end Jamming Media mismatch Stop by key
Fatal Error	Check printer power or cable connection Printer motor or sensor trouble*

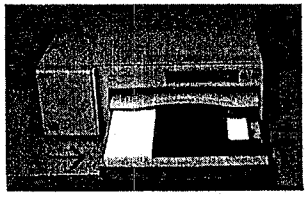
* The printer hardware is malfunctioning. Contact your supplier for service, or your nearest Sony Service Center.

Status Message Graphic

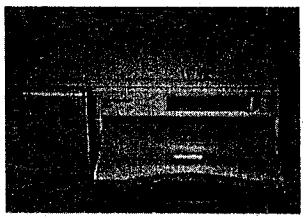


Ready

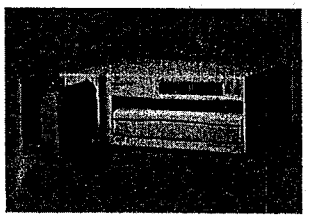
Printing



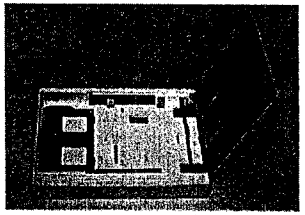
Paper tray out



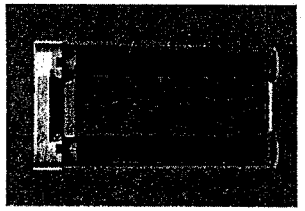
Paper cover out



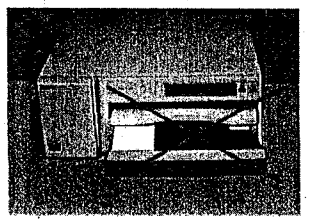
Ribbon cassette out



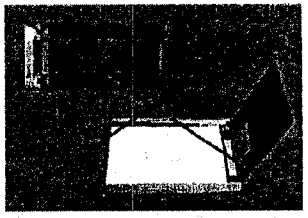
Paper end



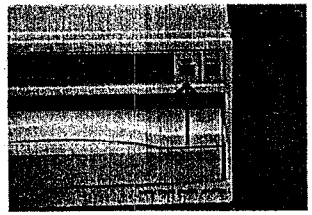
Ribbon end



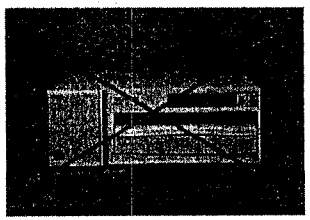
Jamming



Media mismatch



Stop by key

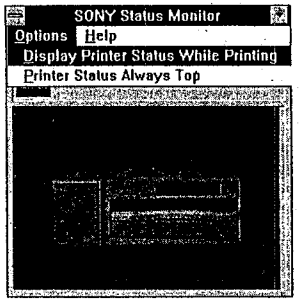


- Check printer power or cable connection.
- Printer motor or sensor trouble.

The status message graphic is displayed in this window. The graphic may be difficult to see with a 16- or 256-color display.

■ Changing the Status Monitor Display

The behavior of the Status Monitor window can be changed from the Setup menu.

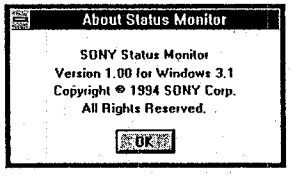


- **Display Printer Status While Printing**
  When this selection is checked, the Status Monitor is automatically activated when you start printing. Uncheck the item to cause the Status Monitor window to appear only when manually activated from the Print Manager tool bar or Display menu.

- **Printer Status Always Top**
  Check this selection to have the Status Monitor window always on top (in front of) any other windows, so it is always visible.

■ Using Help

The Help menu provides help on this Print Manager, and the version number of the Status Monitor.
Choose About to display the following window:



■ Status Monitor Icons

One of the following icons indicates the error status in the Status Monitor.

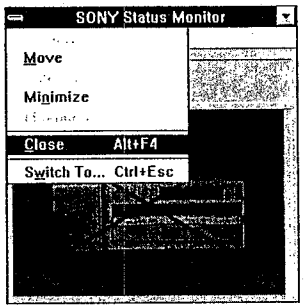
: No Errors


: Warning Level Error


: Fatal Error

■ Close Status Monitor

Choose Close from the Control menu to close the Status Monitor window.



1-12. PHOTOSHOP PLUG-IN MODULE OPERATION

The Photoshop plug-in module allows the UP-D8800 to print graphic images from the Photoshop application. The plug-in module allows color calibration of printer output, selection of 150-dpi graphics output and other printing controls for graphics.

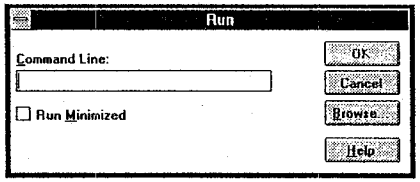
Installating the Plug-in Module

This procedure describes installation of the plug-in module for Windows

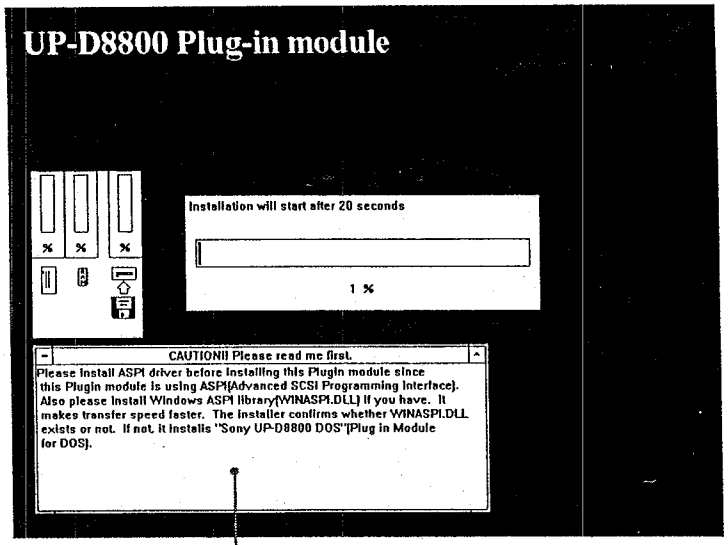
1 Turn on the computer and start Windows.

2 Insert the supplied floppy disk labeled "Printer Plug-In Module for Windows" into the floppy disk drive of the computer. The following steps assume that the disk is in drive A. If you have the disk in a different drive (e.g., B), please substitute that letter as appropriate.

3 In the Windows Program Manager, select "Run..." from the File drop-down menu to display the Run dialog box.

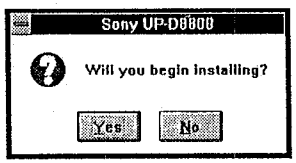


4 Type "A:SETUP" in the text box, and click OK.
Installation begins, and the next window is displayed.



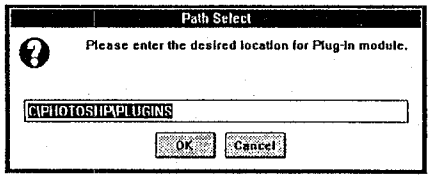
If the window is too small for your display resolution, expand it by dragging the window border with the mouse.

After about 20 seconds, the following dialog box appears:

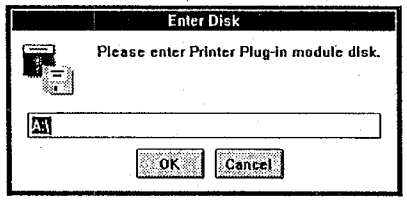


Note:
Setup can also be run from the Windows File Manager.

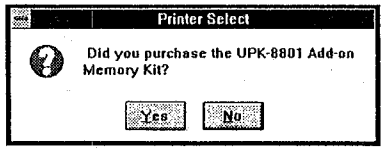
5 You are asked for a subdirectory in which to install the Photoshop Plug-In Module software.



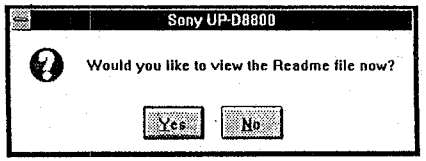
6 Type the desired subdirectory.
The next window is displayed.



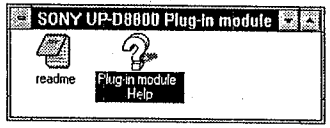
7 Choose OK. You are then asked whether your printer is equipped with the UPK-8801 add-on memory kit.



8 Answer appropriately for the printer that you have connected.
Installation proceeds until the next message is displayed, as installation ends.



9 Choose Yes to view the READ.ME file. When finished, a new program group, "SONY UP-D8800 Plug-in module", is displayed in the Program Manager.



This completes the installation.

Printing an Image

When you print an image, the image file must be opened in Photoshop before opening the main dialog box of the plug-in module.

Print Procedure

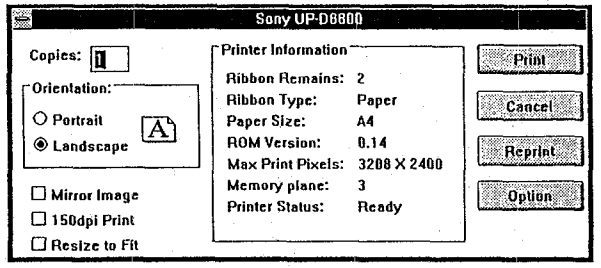
To print Photoshop images, use the following procedure:

1 Start the Photoshop application.

2 Open the image file that you want to print. (This software supports 3-channel RGB, and 1-channel grayscale.)

3 Choose "Export" from the File menu. If your SCSI host adapter supports only DOS ASPI, choose the "Sony UP-D8800 DOS..." submenu. If your host adapter supports Windows ASPI, choose the "Sony UP-D8800..." submenu.
The main dialog box for the Sony UP-D8800 appears.

Main Dialog Box Functions



- **Copies**
  If your printer is equipped with the UPK-8801 add-on memory kit, this option allows you to set the number of copies you want to print. A maximum of 20 sheets can be printed at once. The setting is fixed to 1 for printers that are not equipped with the UPK-8801 add-on memory kit.

- **Orientation**
  Select whether your pages should print in Portrait (tall) or Landscape (wide) format. The correct button is selected by default, but you may override this if you desire.

- **Printer Information**
  Information on the current state of the printer is displayed. When the Printer Status displays Ready, you can print. Other possible states are: Check Paper Tray, Check Ribbon Cassette and Out of Paper.
  Other printer information displayed is the number of sheets that can be printed with the remaining length of the ribbon, the currently selected paper size, the ROM version of the printer, the largest possible printing size (in pixels), and the number of memory frames.

- **Mirror Image**
  To print a mirror image (left-right reversed), check here.

- **150dpi Print**
  Check here to change output resolution to 150 dpi. Note that selecting 150 dpi Print decreases the maximum size of an image that can be printed.

- **Resize to Fit**
  When selected, this option adjusts the size of the printed image to the maximum size printable by the UP-D8800. This option is available only when the printer is equipped with the UPK-8801 add-on memory kit.

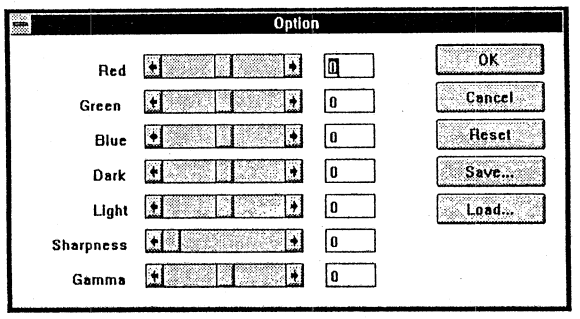
- **Print**
  Starts printing the image.

- **Cancel**
  Click here to stop printing and cancel the current job.

- **Reprint**
  Click here to print another copy of the same image that was just printed (and stored in memory). This option is available only when the printer is equipped with the UPK-8801 add-on memory kit.

- **Option**
  Click this button to adjust the way the printer handles color, contrast and sharpness properties of the image. This option is available only when the printer is equipped with the UPK-8801 add-on memory kit.

■ Option Dialog Box

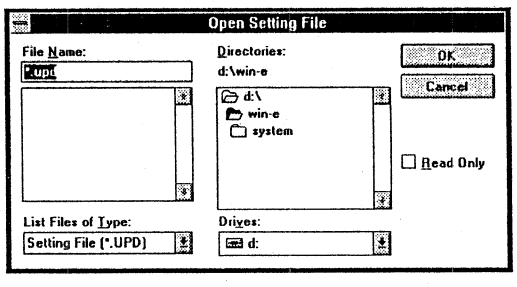


- **Parameter Range**

Red	-32 ~ +32
Green	-32 ~ +32
Blue	-32 ~ +32
Dark	-32 ~ +32
Light	-32 ~ +32
Sharpness	0 ~ +3
Gamma	-32 ~ +32

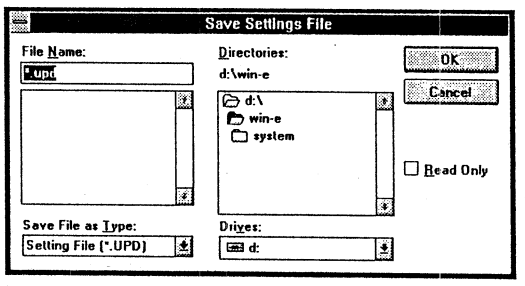
The functions of the buttons are as follows:

- **Load**
  Load a set of color calibration parameters that has been previously saved to disk.



Select the parameter file to load, and click OK.

- **Save**



Save the current parameter settings to disk. Enter a file name, and click OK.

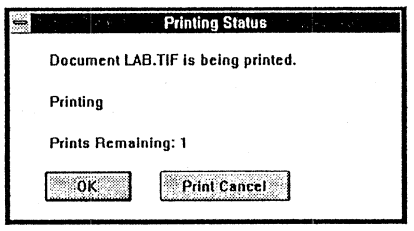
- **Reset**
  Return all parameter settings to their initial values.

- **OK**
  Send the displayed settings to the printer.

- **Cancel**
  Return to the Main dialog box. Any changes to the parameters are ignored.

■ Printing Status Dialog Box

When you start printing, the Printing Status dialog box is displayed. This dialog shows the current status of the printer.



You can stop the print job and eject the page by clicking the Print Cancel button.
Click the OK button to remove the Printing Status dialog box and return to the Photoshop window.
If you want to cancel printing when the Printing Status dialog box is not displayed, choose "Sony UP-D8800..." or "Sony UP-D8800 DOS..." from the "Export" menu, to bring up the Printer Status dialog box, then click Cancel.

1-13. TROUBLESHOOTING

If a question arises during installation or operation of this Kit, please check the following items.

■ During Installation

- **UP-D8800 icons fail to appear in the Chooser window of the Mac.**
  Scroll the window to confirm that the icons are not just out of view.
  Make sure that the Printer Driver is in the current Extensions folder of the System folder.
  Try closing and re-opening the Chooser window.
  Restart the Mac.

- **When you click on the UP-D8800 icon in the Chooser, the printer name does not appear in the list box (no SCSI address is displayed).**
  Turn off the Mac and all peripherals, and confirm that the SCSI cable is properly connected.

- **Windows displays an error message when you attempt to run A:SETUP.**
  Confirm that the correct disk is in the correct floppy drive.

■ Printing Problems

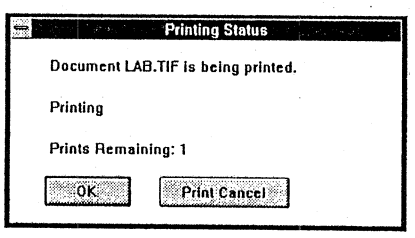
- **The Mac displays the message "Printer not ready".**
  Confirm that the power cable to the printer is plugged in, and that the printer and the Mac are connected together properly.
  Is the printer selected? If it is, "READY" should appear on the printer's LCD.
  If the LCD shows "NO PAPER" or "REMOVE PAPER" (in case of a paper jam) please see the instructions in the printer manual regarding error displays.

- **In Windows, if the Status Monitor indicates a warning level error:**
  Please correct the cause of the error according to the accompanying status message ("Out of Paper" or "Out of Ribbon").

- **In Windows, if the Status Monitor indicates a fatal error:**
  Contact your supplier for service, or your nearest Sony Service Center.

■ Printing Status Dialog Box

When you start printing, the Printing Status dialog box is displayed. This dialog shows the current status of the printer.



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Click the OK button to remove the Printing Status dialog box and return to the Photoshop window.
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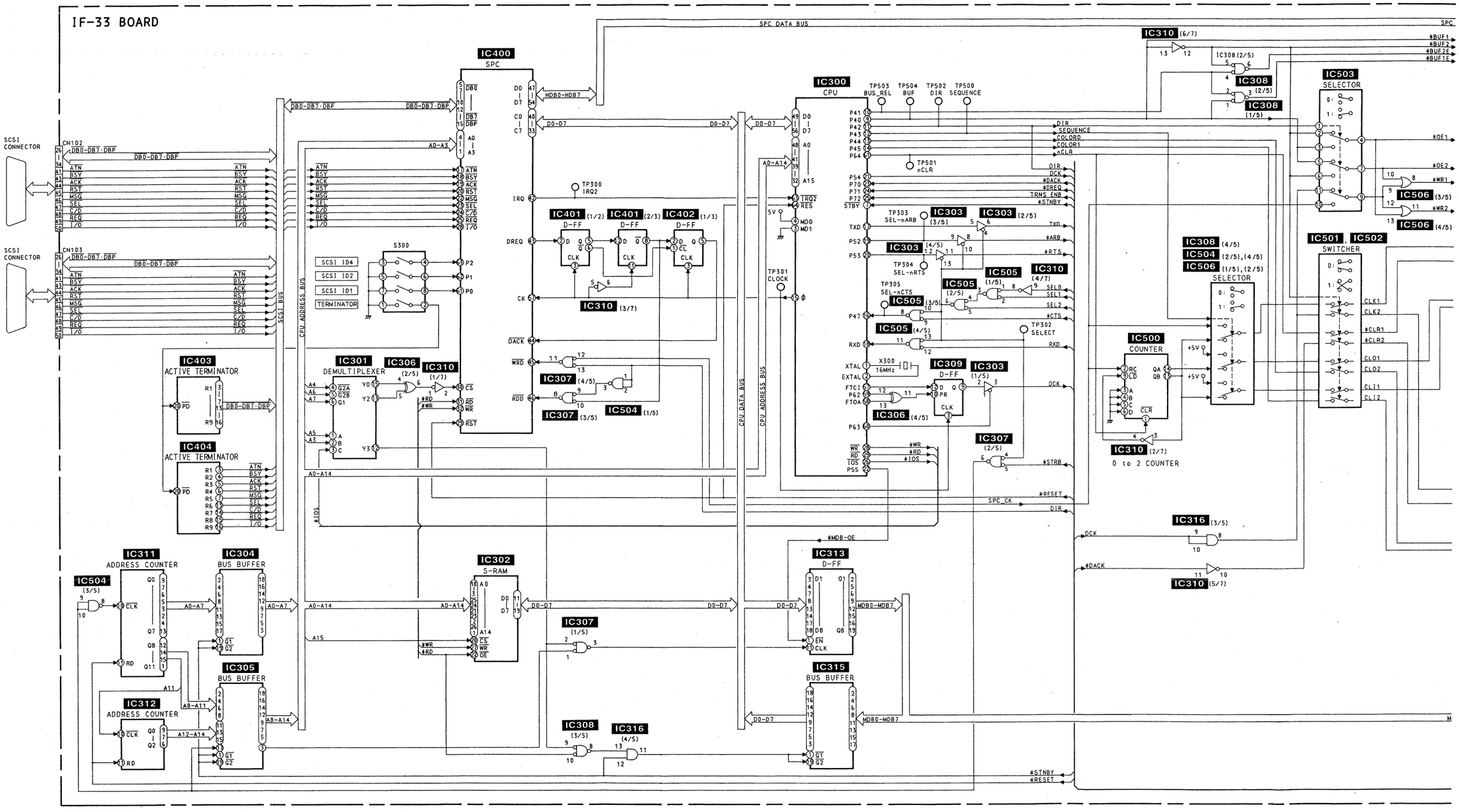
- **In Windows, if the Status Monitor indicates a fatal error:**
  Contact your supplier for service, or your nearest Sony Service Center.

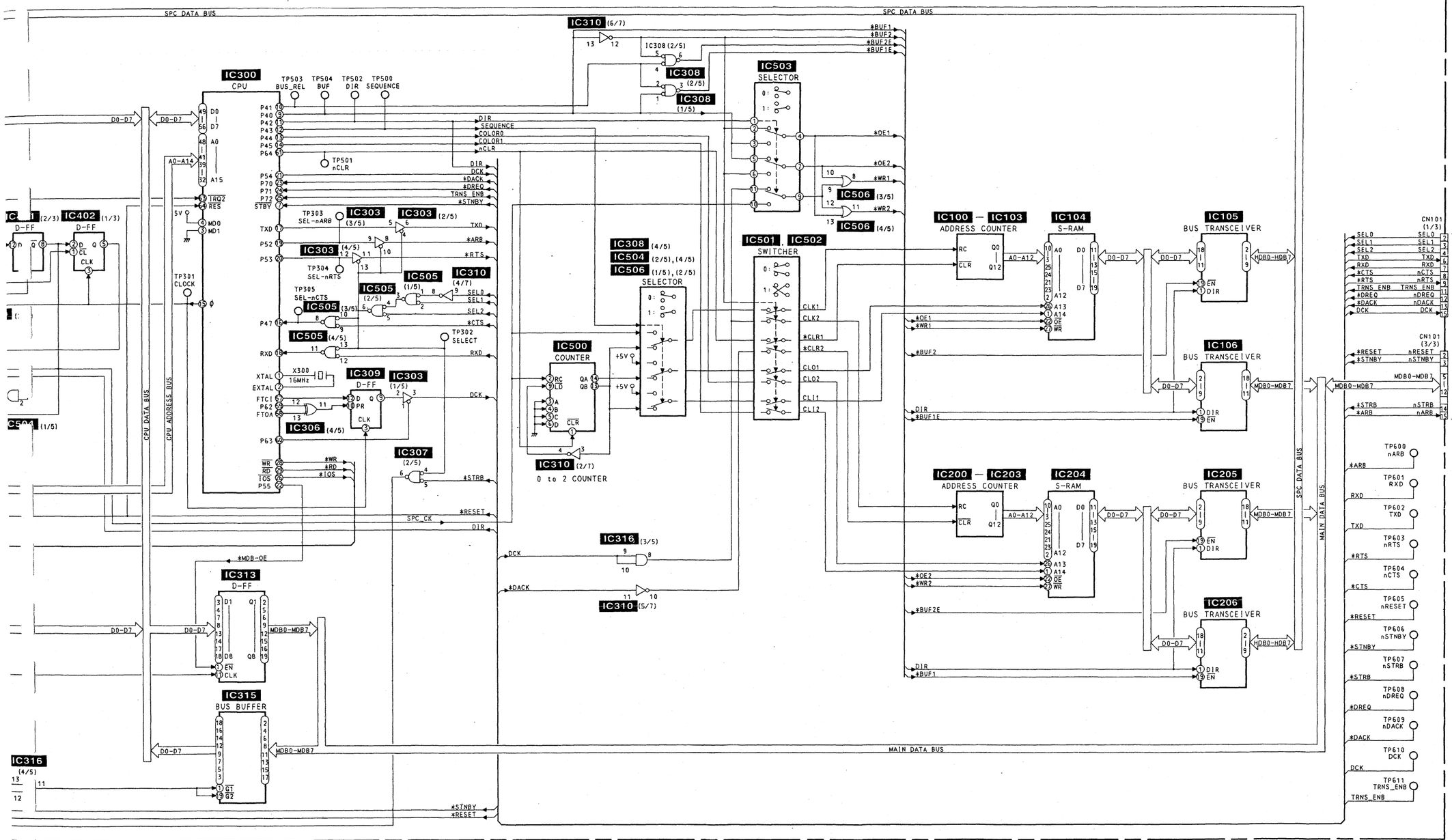
■ Problem During Background Printing

- **If an application appears to slow down or work intermittently during background printing:**
  Your computer's processor divides its time between the foreground application and background printing. This will always cause the foreground application to slow down to some degree.

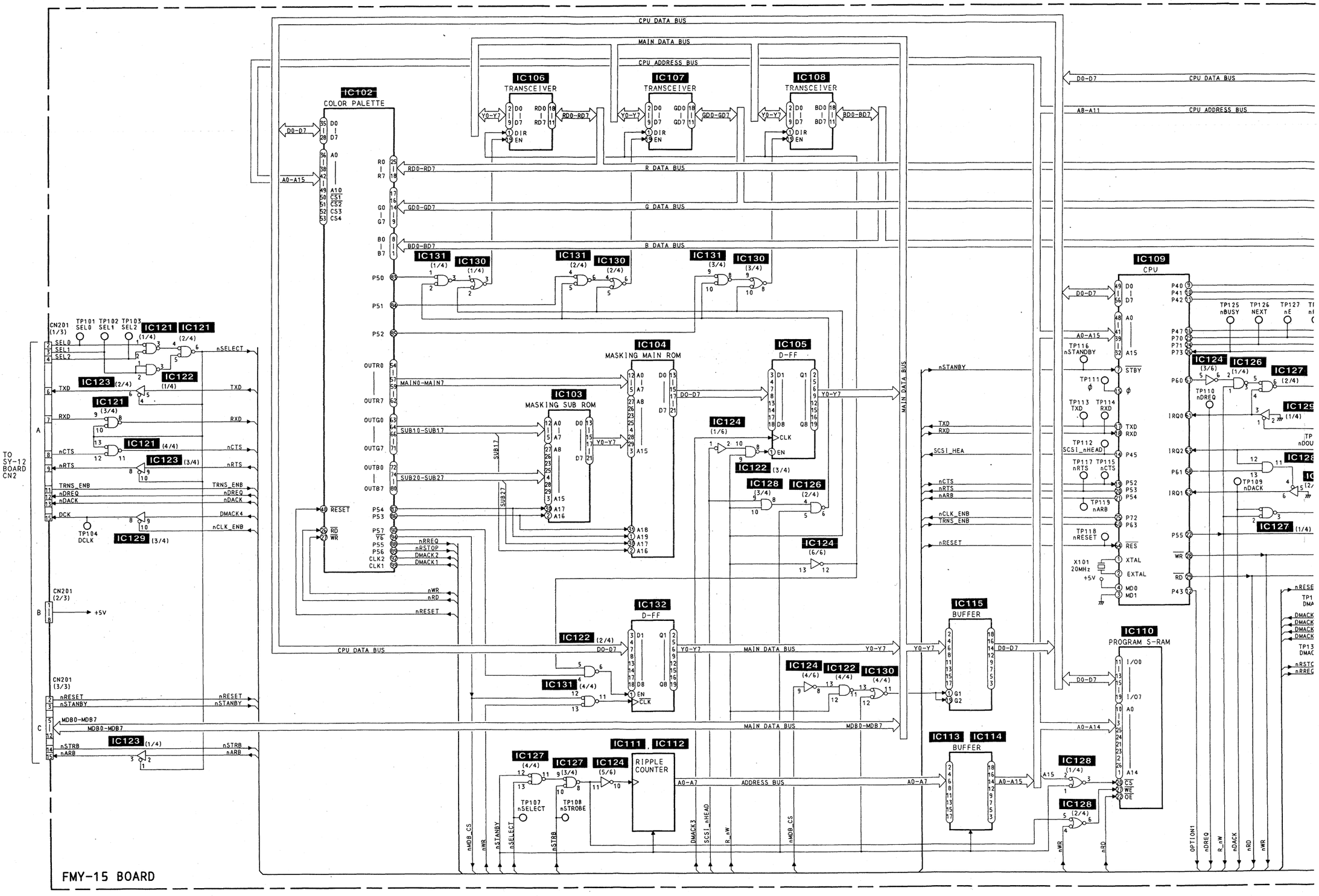
SECTION 2
DIAGRAMS

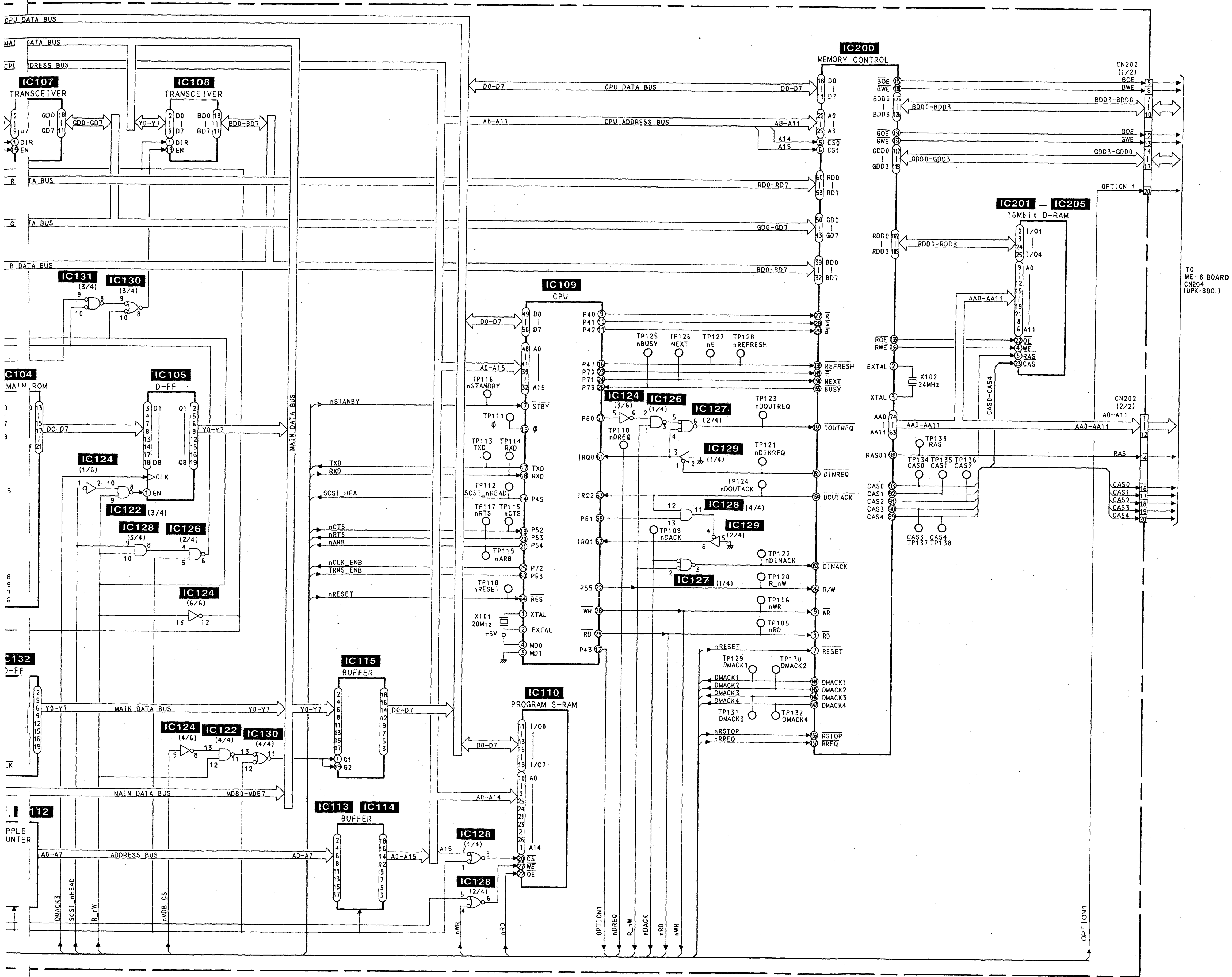
2-1. SCSI INTERFACE BLOCK DIAGRAM




SPC DATA BUS
IC300
CPU
TP503 BUS_REL
TP504 BUF
TP502 DIR
TP500 SEQUENCE
D0-D7
A0-A14
A15
TRQ
RES
MD0
MD1
5V
TP301 CLOCK
X300 16MHz
XTAL
EXTAL
FTCI
P62
FTOA
P63
WR
RD
IOS
P55
TP501 nCLR
P41 DIR
P40 SEQUENCE
P42 COLOR0
P43 COLOR1
P44 nCLR
P45
P64
P54 DCK
P70 *DACK
P71 *DREQ
P72 TRNS_ENB
STBY *STNBY
TXD
P52
P53
TP303 SEL-nARB
TP304 SEL-nRTS
TP305 SEL-nCTS
P47
RXD
TP302 SELECT
IC303 (3/5)
IC303 (2/5)
IC303 (4/5)
IC303 (1/5)
IC303
IC305 (1/5)
IC305 (2/5)
IC305 (3/5)
IC305 (4/5)
IC310 (4/7)
SEL0
SEL1
SEL2
*CTS
TXD
*ARB
*RTS
DCK
IC309
D-FF
IC306 (4/5)
IC307 (2/5)
*STRB
*WR
*RD
*IOS
*RESET
SPC_CK
DIR
*MDB-OE
IC310 (6/7)
IC308 (2/5)
IC308
IC308 (1/5)
*BUF1
*BUF2
*BUF2E
*BUF1E
IC503
SELECTOR
*OE1
*OE2
*WR1
IC506 (3/5)
*WR2
IC506 (4/5)
IC308 (4/5)
IC504 (2/5),(4/5)
IC506 (1/5),(2/5)
SELECTOR
IC501, IC502
SWITCHER
CLK1
CLK2
*CLR1
*CLR2
CLO1
CLO2
CLI1
CLI2
IC500
COUNTER
RC
LD
QA
QB
CLR
+5V
IC310 (2/7)
0 to 2 COUNTER
IC316 (3/5)
DCK
*DACK
IC310 (5/7)
IC100 — IC103
ADDRESS COUNTER
RC
CLR
Q0
Q12
A0-A12
IC104
S-RAM
A0
A12
D0
D7
A13
A14
OE
WR
*OE1
*WR1
*BUF2
DIR
*BUF1E
IC105
BUS TRANSCEIVER
EN
DIR
MDB0-MDB7
IC106
BUS TRANSCEIVER
*BUF2E
IC200 — IC203
ADDRESS COUNTER
IC204
S-RAM
*OE2
*WR2
IC205
BUS TRANSCEIVER
IC206
BUS TRANSCEIVER
IC313
D-FF
IC315
BUS BUFFER
IC316 (4/5)
GT
G2
CPU DATA BUS
CPU ADDRESS BUS
SPC DATA BUS
MAIN DATA BUS
MAIN DATA BUS
CN101 (1/3)
SEL0
SEL1
SEL2
TXD
RXD
*CTS
*RTS
TRNS_ENB
*DREQ
*DACK
DCK
CN101 (3/3)
*RESET
*STNBY
*STRB
*ARB
TO SY-12 BOARD CN1
TP600 nARB
TP601 RXD
TP602 TXD
TP603 nRTS
TP604 nCTS
TP605 nRESET
TP606 nSTNBY
TP607 nSTRB
TP608 nDREQ
TP609 nDACK
TP610 DCK
TP611 TRNS_ENB

2-2. FRAME MEMORY BLOCK DIAGRAM

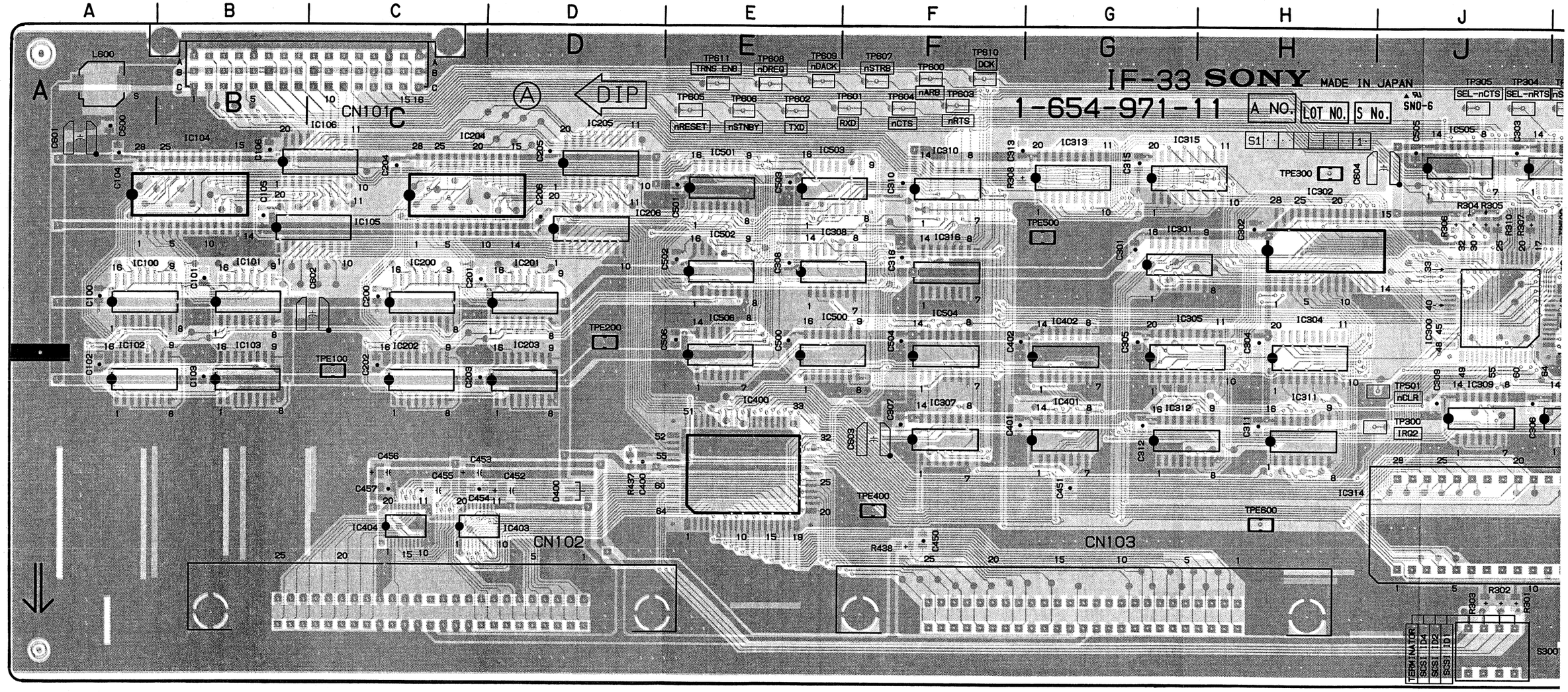



IC107
TRANSCEIVER
IC108
TRANSCEIVER
IC200
MEMORY CONTROL
CPU DATA BUS
CPU ADDRESS BUS
CN202 (1/2)
OPTION 1
IC201 – IC205
16Mbit D-RAM
IC109
CPU
IC131
IC130
IC104
MAIN ROM
IC105
D-FF
IC124
IC122
IC128
IC126
IC127
IC129
X102 24MHz
CN202 (2/2)
TO ME-6 BOARD CN204 (UPK-8801)
X101 20MHz
IC132
D-FF
IC115
BUFFER
IC110
PROGRAM S-RAM
MAIN DATA BUS
IC113
IC114
BUFFER
ADDRESS BUS
IC112
RIPPLE COUNTER

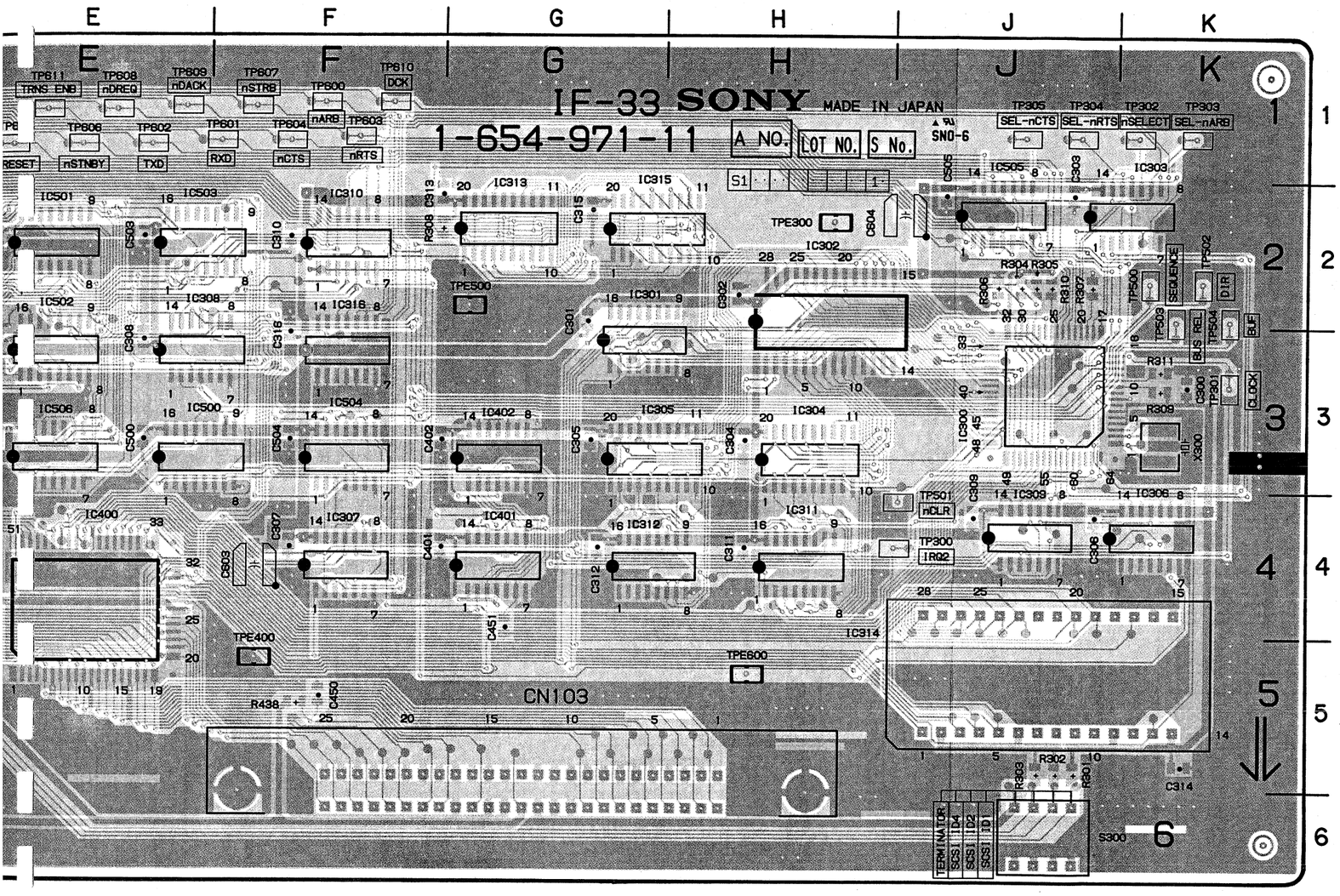
SECTION 3
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

3-1. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

IF-33 (SCSI INTERFACE)



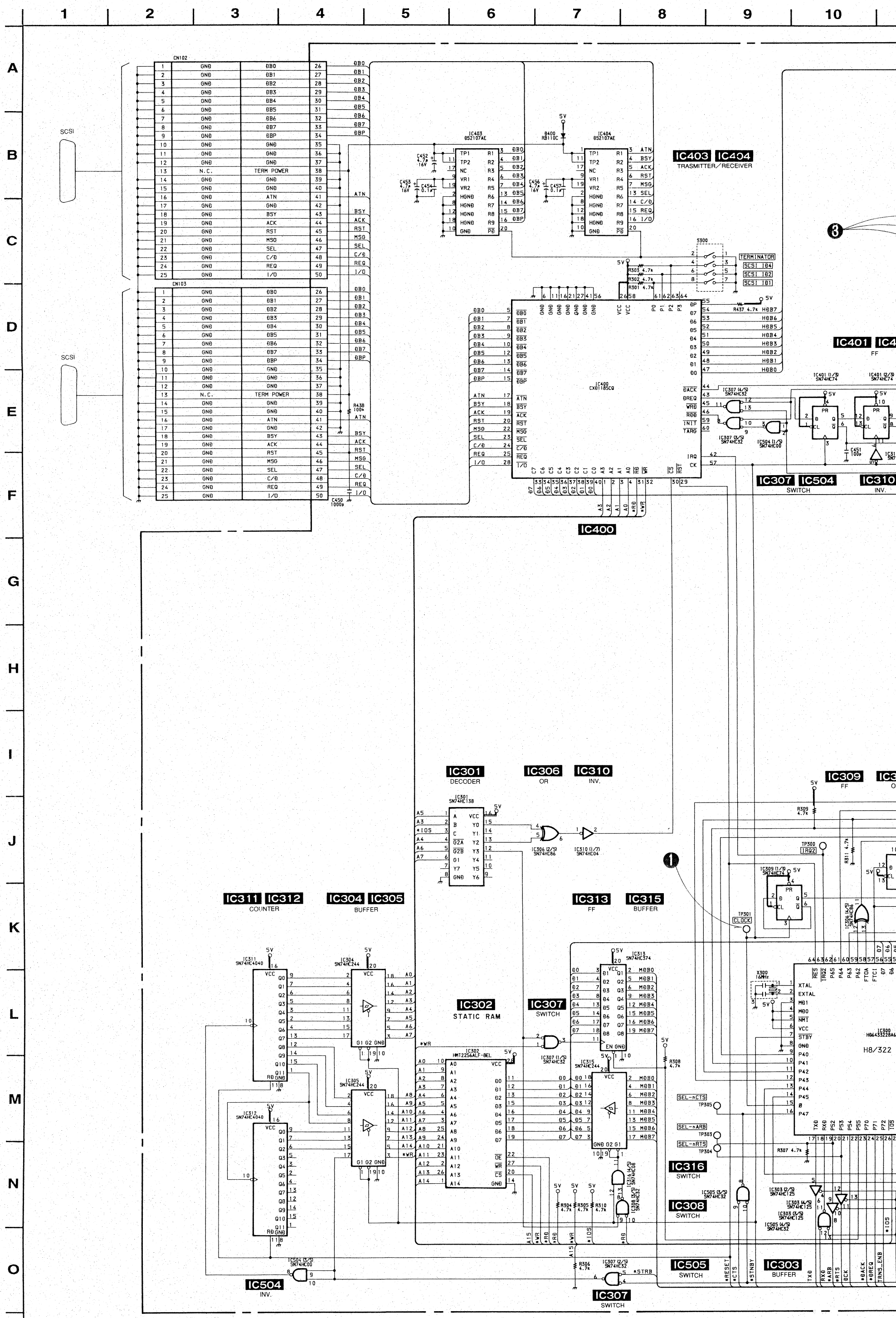
IF-33
1-654-97



IF-33 -COMPONENT SIDE-
1-654-971-11

IF-33 BOARD

D400	D-5	L600	A-1
IC100	A-3	S300	J-6
IC101	B-3		
IC102	A-3	TPE200	D-3
IC103	B-3	TPE500	G-2
IC104	B-2		
IC105	C-2	X300	K-3
IC106	C-1		
IC200	C-3		
IC201	D-3		
IC202	C-3		
IC203	D-3		
IC204	C-2		
IC205	D-1		
IC206	D-2		
IC300	J-3		
IC301	G-2		
IC302	H-2		
IC303	K-1		
IC304	H-3		
IC305	G-3		
IC306	K-3		
IC307	F-4		
IC308	E-2		
IC309	J-4		
IC310	F-2		
IC311	H-4		
IC312	G-4		
IC313	G-2		
IC315	G-2		
IC316	F-2		
IC400	E-4		
IC401	G-4		
IC402	G-3		
IC403	D-5		
IC404	C-5		
IC500	E-3		
IC501	E-2		
IC502	E-2		
IC503	E-2		
IC504	F-3		
IC505	J-1		
IC506	E-3		


1 2 3 4 5 6 7 8 9 10
A B C D E F G H I J K L M N O
SCSI
SCSI
CN102
CN103
GND ØB0 26 ØB1 27 ØB2 28 ØB3 29 ØB4 30 ØB5 31 ØB6 32 ØB7 33 ØBP 34 GND 35 GND 36 GND 37 N.C. TERM POWER 38 GND 39 GND 40 GND 41 GND 42 BSY 43 ACK 44 RST 45 MSG 46 SEL 47 C/D 48 REQ 49 I/O 50
R438 100k
C450 1000p
IC403 B52107AE
IC404 B52107AE
B400 RB110C
C452 4.7µ 16V
C453 4.7µ 16V
C454 0.1µ
C456 4.7µ 16V
C457 0.1µ
TP1 TP2 NC VR1 VR2 HGND HGND HGND HGND GND R1 R2 R3 R4 R5 R6 R7 R8 R9 PD
IC403 IC404
TRASMITTER/RECEIVER
S300
TERMINATOR
SCSI ID4
SCSI ID2
SCSI ID1
R303 4.7k
R302 4.7k
R301 4.7k
R437 4.7k
IC400
CX01185CQ
IC401 (1/3) SN74HC74
IC401 (2/3) SN74HC74
IC307 (4/5) SN74HC32
IC307 (5/5) SN74HC32
IC504 (1/5) SN74HC00
C451 100p
IC307 IC504 IC310
SWITCH INV.
IC301 DECODER
IC306 OR
IC310 INV.
IC309 FF
IC311 IC312 COUNTER
IC304 IC305 BUFFER
IC313 FF
IC315 BUFFER
IC302 STATIC RAM
HMT2256ALF-8EL
IC316 SWITCH
IC308 SWITCH
IC505 SWITCH
IC303 BUFFER
IC504 INV.
IC307 SWITCH
SN74HC138
SN74HC4040
SN74HC244
SN74HC374
SN74HC86
SN74HC04
SN74HC08
SN74HC125
R309 4.7k
R311 4.7k
R308 4.7k
R307 4.7k
R306 4.7k
R504 4.7k
R505 4.7k
R310 4.7k
TP300 IRQ2
TP301 CLOCK
TP305 SEL-nCTS
TP303 SEL-nARB
TP304 SEL-nRTS
X300 16MHz
H8/322
IC300 HD6433228A6
*RESET *CTS *STNBY TXD RXD *ARB *RTS BCK *ØACK *ØREQ TRNS_ENB *IOS
*STRB

IC403 IC404
TRASMITTER/RECEIVER

IC401 IC402
FF

IC307 IC504 IC310
SWITCH / INV.

IC309 IC306 IC303
FF / OR / BUFFER

IC315
BUFFER

IC300
CPU

IC316
SWITCH

IC308
SWITCH

IC505
SWITCH

IC303
BUFFER

IC310 IC505
SWITCH

IC100 — IC103
COUNTER

IC104
STATIC RAM

IC105 IC106
TRANSCEIVER

IC200 — IC203
COUNTER

IC204
STATIC RAM

IC205 IC206
TRANSCEIVER

IC308 IC504 IC506
SWITCH

IC500
COUNTER

IC316
AND

IC310
INV.

IC308 IC506
SWITCH

IC501 IC502 IC503
MULTIPLEXER

IC403 IC404
TRASMITTER/RECEIVER

IC401 IC402
FF

IC307 IC504 IC310
SWITCH / INV.

IC100 — IC103
COUNTER

IC105 IC106
TRANSCEIVER

IC104
STATIC RAM

IC200 — IC203
COUNTER

IC205 IC206
TRANSCEIVER

IC204
STATIC RAM

IC309 IC306 IC303
FF / OR / BUFFER

IC308 IC504 IC506
SWITCH

IC300
CPU

IC313 IC315
BUFFER

IC316
AND

IC310
INV.

IC501 IC502 IC503
MULTIPLEXER

IC316
SWITCH

IC308
SWITCH

IC505
SWITCH

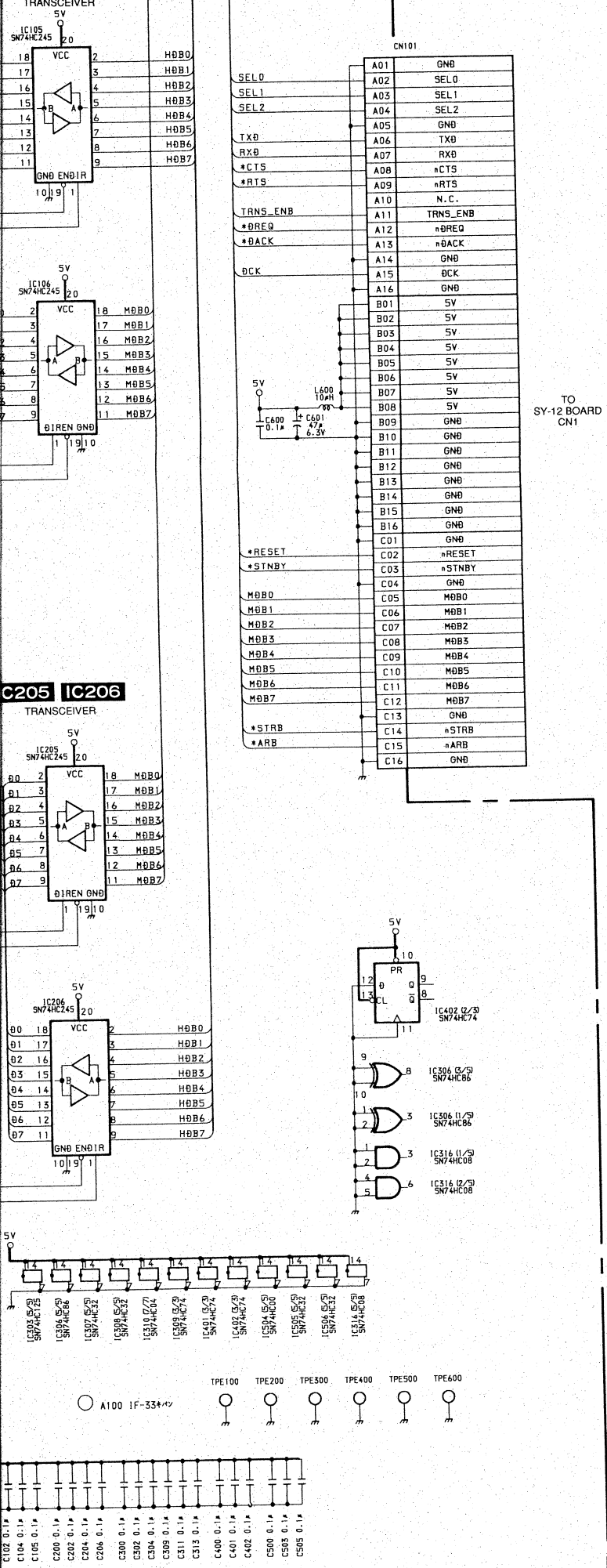
IC303
BUFFER

IC310 IC505
SWITCH

IC307
SWITCH

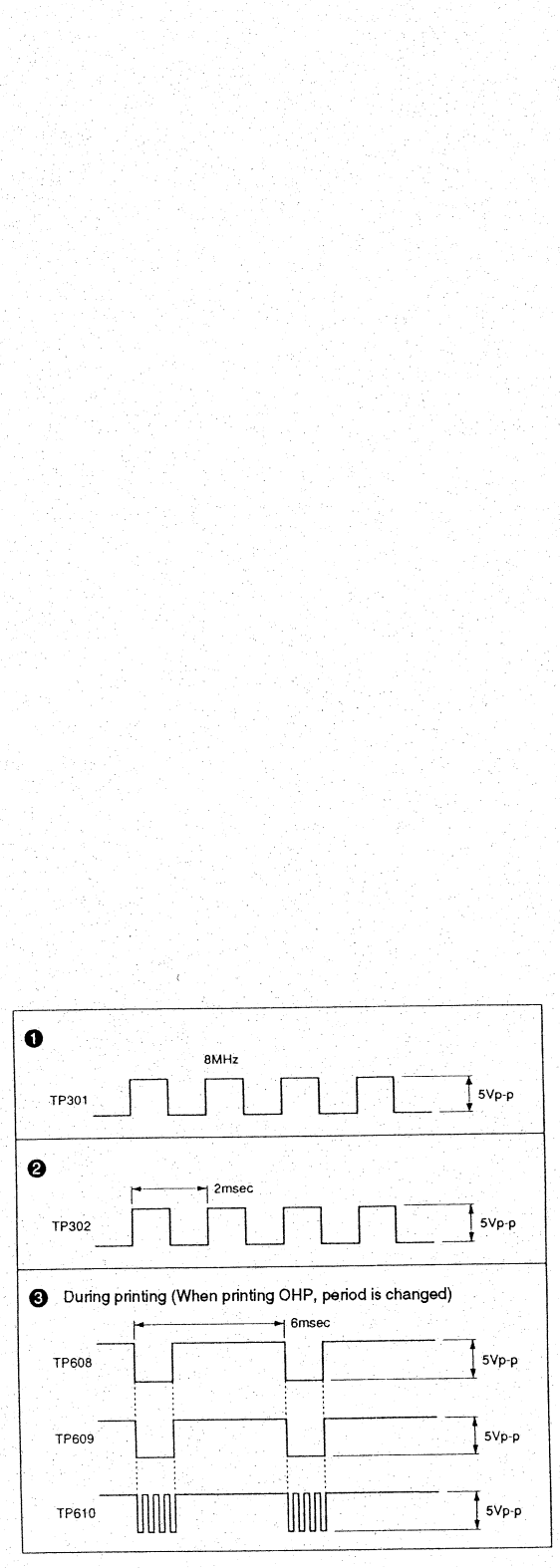
17 18 19 20

C105 IC106
TRANSCEIVER



01 IC502 IC503
MULTIPLEXER

IF-33 BOARD



1 2 3 4 5 6 7 8

A B C D E F G H I J K L M N O

IC121 IC122
SWITCH

TP101 SEL0, TP102 SEL1, TP103 SEL2

IC121 (1/4) HC32
IC121 (2/4) HC32
IC122 (1/4) HC00
IC123 (2/4) HC125
IC121 (3/4) HC32
IC121 (4/4) HC32
IC123 (3/4) HC125
R102 10k
R103 10k

CN201 (1/3)

1	GND
2	SEL0
3	SEL1
4	SEL2
5	GND
6	TXD
7	RXD
8	nCTS
9	nRTS
10	NC
11	TRNS_ENB
12	nDREQ
13	nDACK
14	GND
15	DCK
16	GND

TO SY-12 BOARD CN2

TXD, RXD, CTS, RTS, DREQ, DACK, DCLK

IC123
BUFFER

5

L101 10μH

C104 0.1, C103 47 6.3V, C102 47 6.3V, C101 0.1, C106 47 6.3V

CN201 (2/3)

1	5V
2	5V
3	5V
4	5V
5	5V
6	5V
7	5V
8	5V
9	GND
10	GND
11	GND
12	GND
13	GND
14	GND
15	GND
16	GND

TO SY-12 BOARD CN2

CN201 (3/3)

1	GND
2	nRESET
3	nSTNBY
4	GND
5	MDB0
6	MDB1
7	MDB2
8	MDB3
9	MDB4
10	MDB5
11	MDB6
12	MDB7
13	GND
14	nSTRB
15	nARB
16	GND

TO SY-12 BOARD CN2

Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7

IC123 (1/4) HC125
ARB
R101 10k

IC123
BUFFER

IC123 (4/4) HC125

TPE101 TPE102 TPE103 TPE104 TPE105 TPE106

IC106
TRANSCEIVER

IC106 HC245

VCC, A, B, GND, DIREN

Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7
RD0 RD1 RD2 RD3 RD4 RD5 RD6 RD7

IC130 (1/4) HC08
IC131 (1/4) HC32

IC130 IC13
SWITCH

IC102
VIDEO PRINTER COLOR PALLET

IC102 CX08869Q

BY7 BY6 BY5 BY4 BY3 BY2 BY1 BY0
GY7 GY6 GY5 GY4 GY3 GY2 GY1 GY0
RY7 RY6 RY5 RY4 RY3 RY2 RY1 RY0
B7 B6 B5 B4 B3 B2 B1 B0
G7 G6 G5 G4 G3 G2 VSS G1 G0
R7 R6 R5 R4 R3 R2 R1 R0

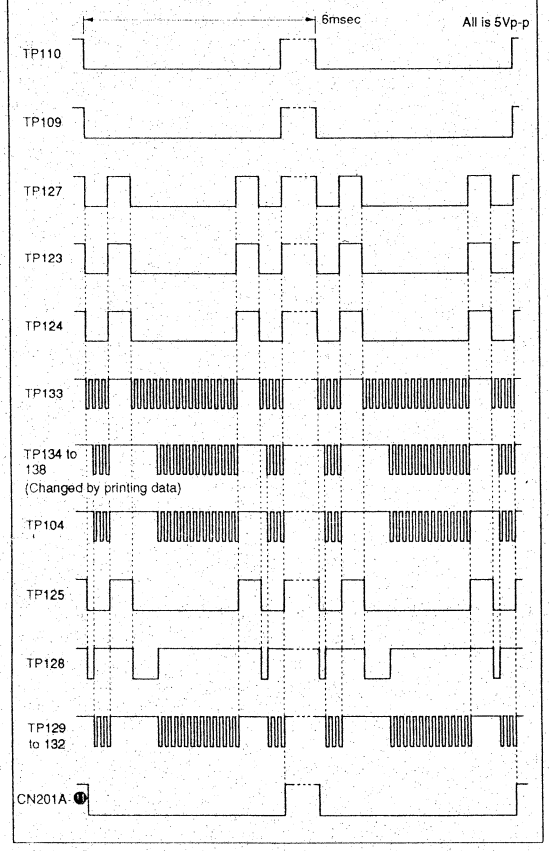
OE CLK1 BE2 BE1 BE0 Y7 Y6 TEST CLK2 VDD PS7 PS6 PS5 PS4 PS3 PS2 PS1 PS0 VDD REV

OUTB7 OUTB6 OUTB5 OUTB4 OUTB3 OUTB2 OUTB1 VSS OUTB0 OUTG7 OUTG6 OUTG5 OUTG4 OUTG3 OUTG2 VSS OUTG1 OUTG0 OUTR7 OUTR6 OUTR5 OUTR4 VSS OUTR3 OUTR2 OUTR1 OUTR0 CS4 CS3 CS2

WR D7 D6 D5 D4 D3 D2 D1 D0 A0 A1 A2 VDD RESET VDD A3 A4 A5 A6 A7 A8 A9 A10 CS1

C202 0.1

5 During FMY printing (When printing OHP, period is changed)



FRAME MEMORY FMY-15 | FRAME MEMORY FMY-15

IC106 TRANSCEIVER

IC107 TRANSCEIVER

IC108 TRANSCEIVER

IC132 LATCH

IC131 SWITCH

IC130 **IC131** SWITCH

IC130 **IC131** SWITCH

IC122 SWITCH

IC124 INV.

IC102 VIDEO PRINTER COLOR PALLET

IC103 2Mbit MASKING SUB ROM

IC104 8Mbit MASKING MAIN ROM

IC105 LATCH

IC122 **IC124** **IC126** **IC128** SWITCH

IC106 TRANSCEIVER

IC107 TRANSCEIVER

IC108 TRANSCEIVER

IC132 LATCH

IC131 SWITCH

IC130 **IC131** SWITCH

IC130 **IC131** SWITCH

IC124 INV.

IC122 SWITCH

IC102 VIDEO PRINTER COLOR PALLET

IC102 CX08869Q

IC103 2Mbit MASKING SUB ROM

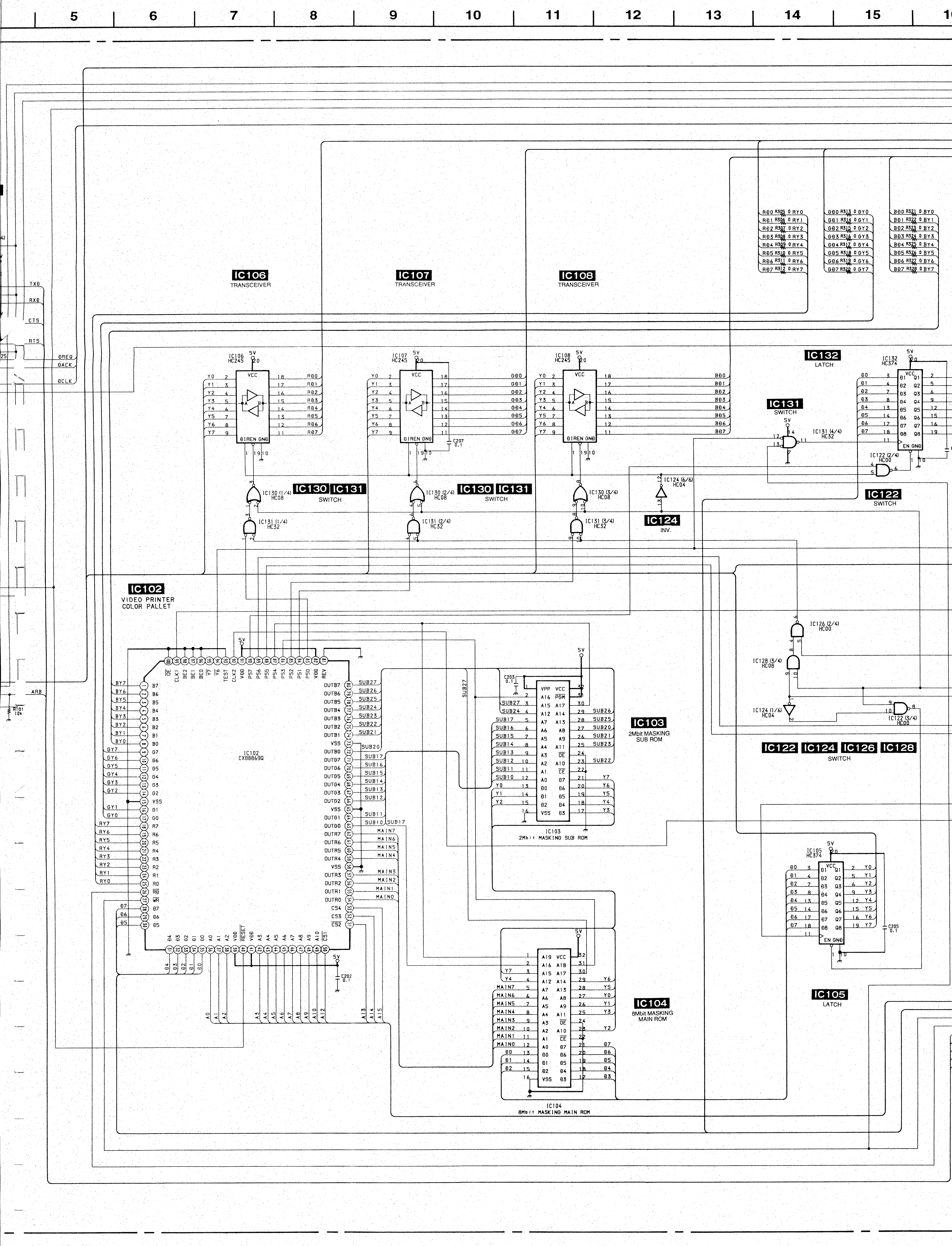
IC103 2Mbit MASKING SUB ROM

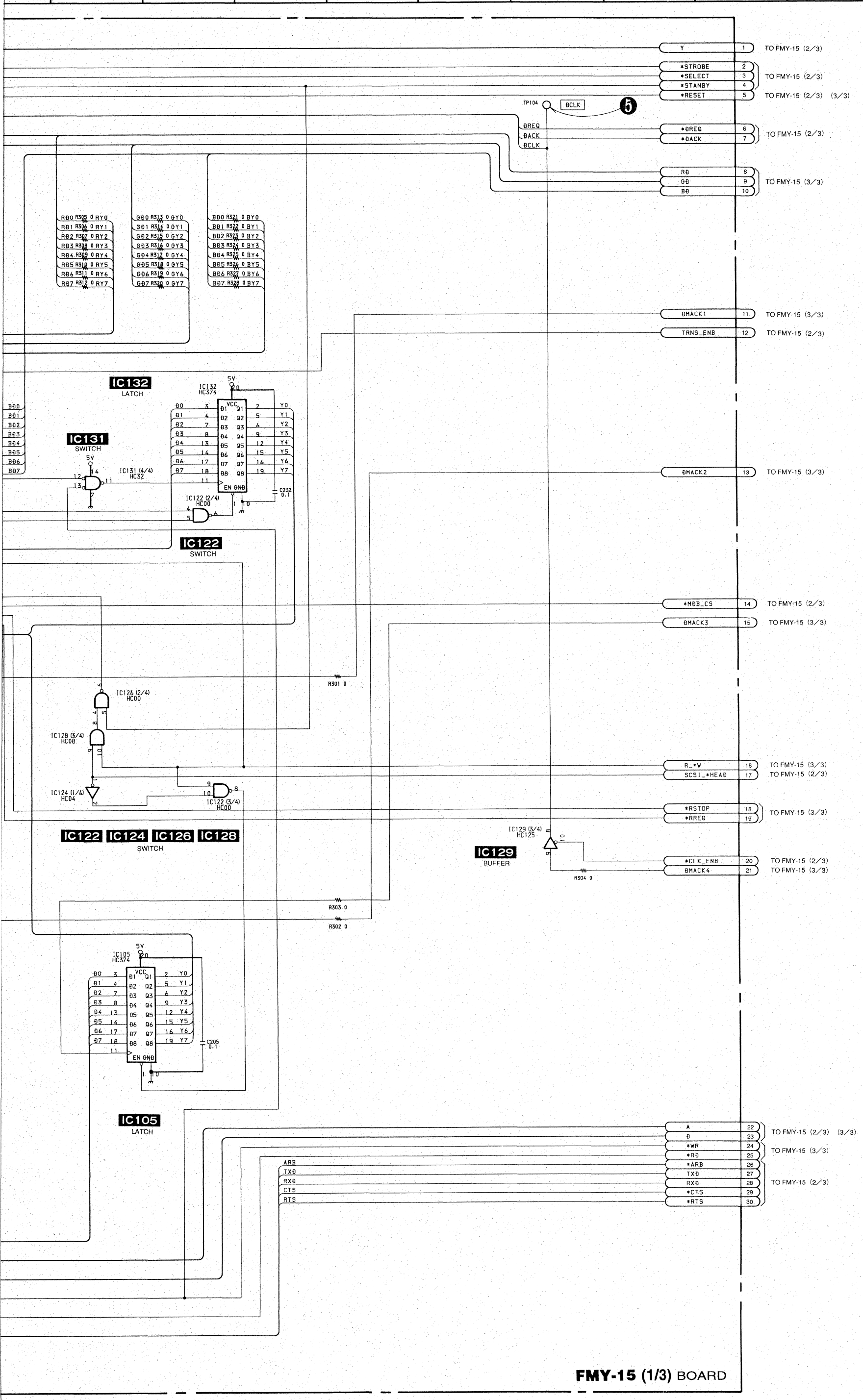
IC104 8Mbit MASKING MAIN ROM

IC104 8Mbit MASKING MAIN ROM

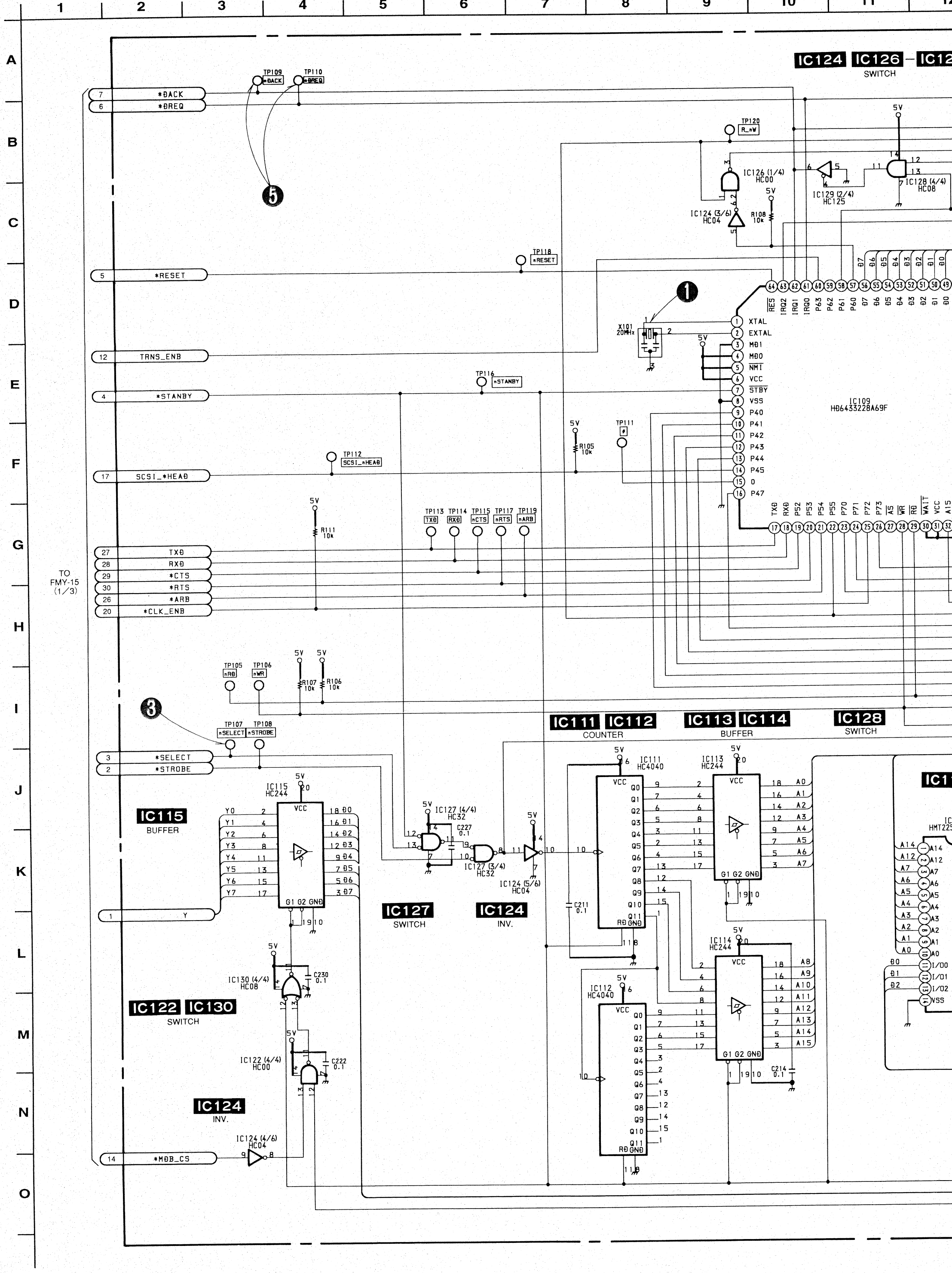
IC122 **IC124** **IC126** **IC128** SWITCH

IC105 LATCH


5 6 7 8 9 10 11 12 13 14 15
TXD
RXD
CTS
RTS
DREQ
DACK
DCLK
ARB
R101 10k
IC106
TRANSCEIVER
IC107
TRANSCEIVER
IC108
TRANSCEIVER
IC106 HC245
IC107 HC245
IC108 HC245
5V
VCC
DIREN GND
C207 0.1
RD0 R305 0 RY0
RD1 R306 0 RY1
RD2 R307 0 RY2
RD3 R308 0 RY3
RD4 R309 0 RY4
RD5 R310 0 RY5
RD6 R311 0 RY6
RD7 R312 0 RY7
GD0 R313 0 GY0
GD1 R314 0 GY1
GD2 R315 0 GY2
GD3 R316 0 GY3
GD4 R317 0 GY4
GD5 R318 0 GY5
GD6 R319 0 GY6
GD7 R320 0 GY7
BD0 R321 0 BY0
BD1 R322 0 BY1
BD2 R323 0 BY2
BD3 R324 0 BY3
BD4 R325 0 BY4
BD5 R326 0 BY5
BD6 R327 0 BY6
BD7 R328 0 BY7
IC130 IC131
SWITCH
IC130 (1/4) HC08
IC131 (1/4) HC32
IC130 (2/4) HC08
IC131 (2/4) HC32
IC130 (3/4) HC08
IC131 (3/4) HC32
IC124 (6/6) HC04
IC124
INV.
IC131
SWITCH
IC131 (4/4) HC32
IC132
LATCH
IC132 HC374
IC122 (2/4) HC00
IC122
SWITCH
IC102
VIDEO PRINTER
COLOR PALLET
IC102 CXD8869Q
OE CLK1 BE2 BE1 BE0 Y7 Y6 TEST CLK2 VDD P57 P56 P55 P54 P53 P52 P51 P50 VDD REV
B7 B6 B5 B4 B3 B2 B1 B0 G7 G6 G5 G4 G3 G2 VSS G1 G0 R7 R6 R5 R4 R3 R2 R1 R0 RD WR D7 D6 D5
D4 D3 D2 D1 D0 A0 A1 A2 VDD RESET VDD A3 A4 A5 A6 A7 A8 A9 A10 CS1
OUTB7 OUTB6 OUTB5 OUTB4 OUTB3 OUTB2 OUTB1 VSS OUTB0 OUTG7 OUTG6 OUTG5 OUTG4 OUTG3 OUTG2 VSS OUTG1 OUTG0 OUTR7 OUTR6 OUTR5 OUTR4 VSS OUTR3 OUTR2 OUTR1 OUTR0 CS4 CS3 CS2
C202 0.1
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A12 A13 A14 A15
C203 0.1
IC103
2Mbit MASKING
SUB ROM
IC103
2Mbit MASKING SUB ROM
IC104
8Mbit MASKING
MAIN ROM
IC104
8Mbit MASKING MAIN ROM
IC126 (2/4) HC00
IC128 (3/4) HC08
IC124 (1/6) HC04
IC122 (3/4) HC00
IC122 IC124 IC126 IC128
SWITCH
IC105 HC374
C205 0.1
IC105
LATCH



FMY-15 (1/3) BOARD


IC124 IC126 IC12
SWITCH
TP109 *DACK
TP110 *DREQ
7 *DACK
6 *DREQ
5
TP120 R_nW
IC126 (1/4) HC00
IC124 (3/6) HC04
R108 10k
5V
IC129 (2/4) HC125
IC128 (4/4) HC08
TP118 nRESET
5 *RESET
12 TRNS_ENB
TP116 nSTANBY
4 *STANBY
1
X101 20MHz
XTAL
EXTAL
MD1
MD0
NMI
VCC
STBY
VSS
P40
P41
P42
P43
P44
P45
0
P47
IC109 HD6433228A69F
TP111
R105 10k
TP112 SCSI_nHEAD
17 SCSI_*HEAD
R111 10k
TP113 TXD
TP114 RXD
TP115 nCTS
TP117 nRTS
TP119 nARB
27 TXD
28 RXD
29 *CTS
30 *RTS
26 *ARB
20 *CLK_ENB
TO FMY-15 (1/3)
TP105 nRD
TP106 nWR
R107 10k
R106 10k
3
TP107 nSELECT
TP108 nSTROBE
3 *SELECT
2 *STROBE
IC111 IC112
COUNTER
IC113 IC114
BUFFER
IC128
SWITCH
IC111 HC4040
IC113 HC244
IC114 HC244
IC115 HC244
IC115
BUFFER
Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7
D0 D1 D2 D3 D4 D5 D6 D7
1 Y
IC127 (4/4) HC32
IC127 (3/4) HC32
C227 0.1
IC124 (5/6) HC04
IC127
SWITCH
IC124
INV.
C211 0.1
A0 A1 A2 A3 A4 A5 A6 A7
A8 A9 A10 A11 A12 A13 A14 A15
C214 0.1
IC130 (4/4) HC08
C230 0.1
IC122 IC130
SWITCH
IC122 (4/4) HC00
C222 0.1
IC124
INV.
IC124 (4/6) HC04
14 *MDB_CS

IC124 IC126 – IC129
SWITCH

IC129 (1/4) HC125
IC127 (1/4) HC32
IC127 (2/4) HC32
TP120 R_nW
IC126 (1/4) HC00
IC124 (3/6) HC04
R108 10k
IC129 (2/4) HC125
IC128 (4/4) HC08
R109 10k
TP121 nBINREQ
TP122 nBINACK
TP123 nBOUTREQ
TP124 nBOUTACK
5

IC109
CPU

1
X101 20MHz
TP111
IC109 HD6433228A69F
XTAL, EXTAL, MB1, MB0, NMI, VCC, STBY, VSS, P40–P47, 0
RES IRQ2 IRQ1 IRQ0 P63 P62 P61 P60 D7 D6 D5 D4 D3 D2 D1 D0
TXB RXB P52 P53 P54 P55 P70 P71 P72 P73 AS WR RD WAIT VCC A15
A0–A14
C209 0.1
R112 10k
R113 10k
R110 10k
TP125 nBUSY
TP126 NEXT
TP127 nE
TP128 nREFRESH
R114 10k
R115 10k
R116 10k
5 4 5

IC112 IC113 IC114 IC128
IC112 COUNTER
IC113 IC114 BUFFER
IC128 SWITCH

IC111 HC4040
IC113 HC244
IC114 HC244
IC112 HC4040
IC128 (2/4) HC08
IC128 (1/4) HC08
C214 0.1

IC110
IC110 HMT2256LF-8T
C226 0.1
IC126 (4/4) HC00
IC126 (3/4) HC00
IC124 (2/6) HC04

IC128
SWITCH

IC124 IC126–IC129
SWITCH

IC129 (1/4) HC125
IC127 (1/4) HC32
IC127 (2/4) HC32
TP120 R_nW
IC126 (1/4) HC00
IC129 (2/4) HC125
IC128 (4/4) HC08
IC124 (3/6) HC04
R108 10k
R109 10k
5V

TP121 nÐINREQ
TP122 nÐINACK
TP123 nÐOUTREQ
TP124 nÐOUTACK

IC109
CPU

X101 20MHz
XTAL EXTAL MÐ1 MÐ0 NMI VCC STBY VSS P40 P41 P42 P43 P44 P45 0 P47
RES IRQ2 IRQ1 IRQ0 P63 P62 P61 P60 Ð7 Ð6 Ð5 Ð4 Ð3 Ð2 Ð1 Ð0
A0 A1 A2 A3 A4 A5 A6 A7 VSS A8 A9 A10 A11 A12 A13 A14
TXÐ RXÐ P52 P53 P54 P55 P70 P71 P72 P73 AS WR RÐ WAIT VCC A15
IC109 HÐ6433228A69F
R105 10k
TP111
C209 0.1
A15

TP125 nBUSY
TP126 NEXT
TP127 nE
TP128 nREFRESH
R112 10k
R113 10k
R110 10k
R114 10k
R115 10k
R116 10k

IC111 IC112 IC113 IC114 IC128
COUNTER / BUFFER / SWITCH

IC111 HC4040
IC112 HC4040
IC113 HC244
IC114 HC244
VCC Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 RÐ GNÐ
G1 G2 GNÐ
A0 A8 A9 A10 A11 A12 A13 A14 A15
C211 0.1
C214 0.1

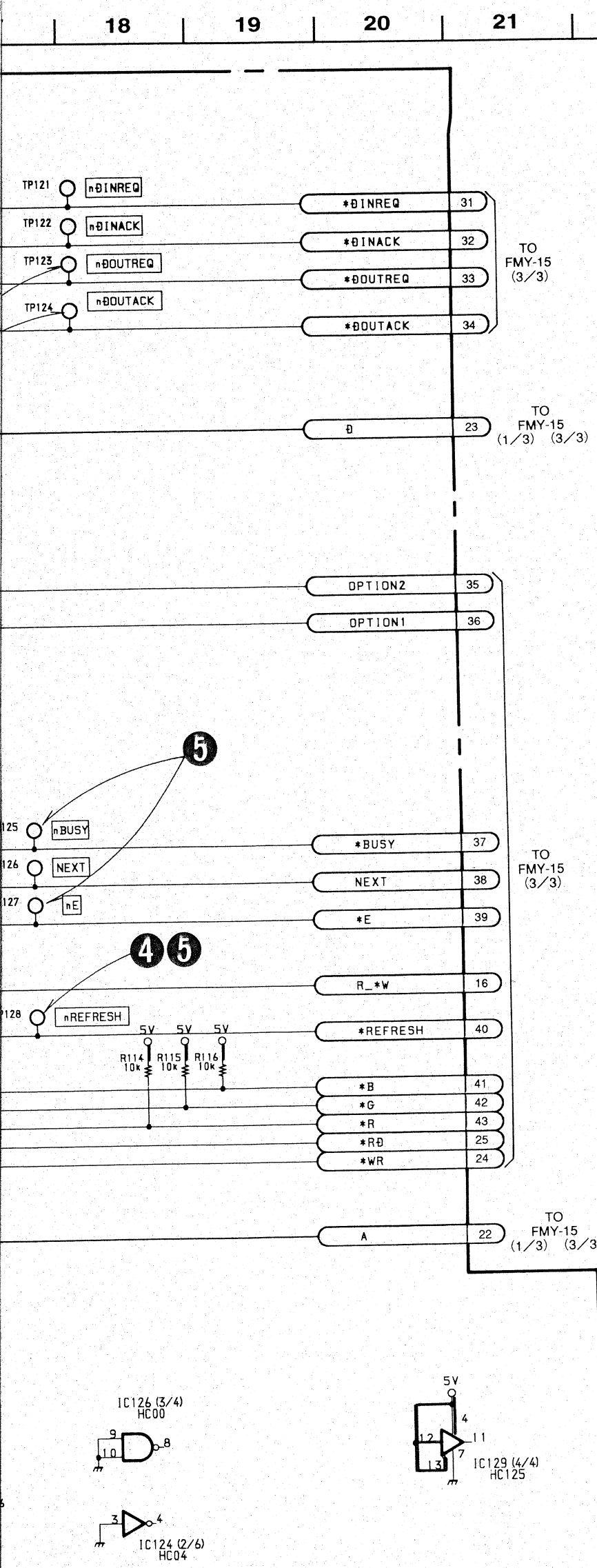
IC128 (2/4) HC08
IC128 (1/4) HC08

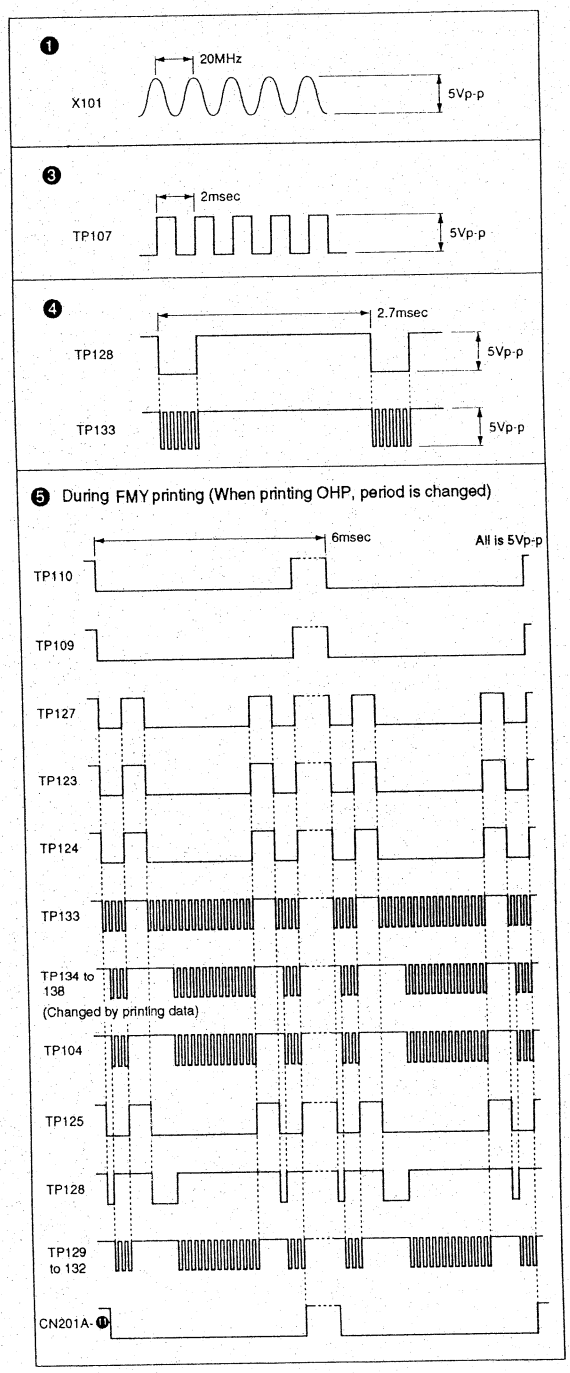
IC110

IC110 HMT2256LF-8T
A14 A12 A7 A6 A5 A4 A3 A2 A1 A0 I/O0 I/O1 I/O2 VSS
VCC WE A13 A8 A9 A11 OE A10 CS I/O7 I/O6 I/O5 I/O4 I/O3
Ð0 Ð1 Ð2 Ð7 Ð6 Ð5 Ð4 Ð3

IC128
SWITCH

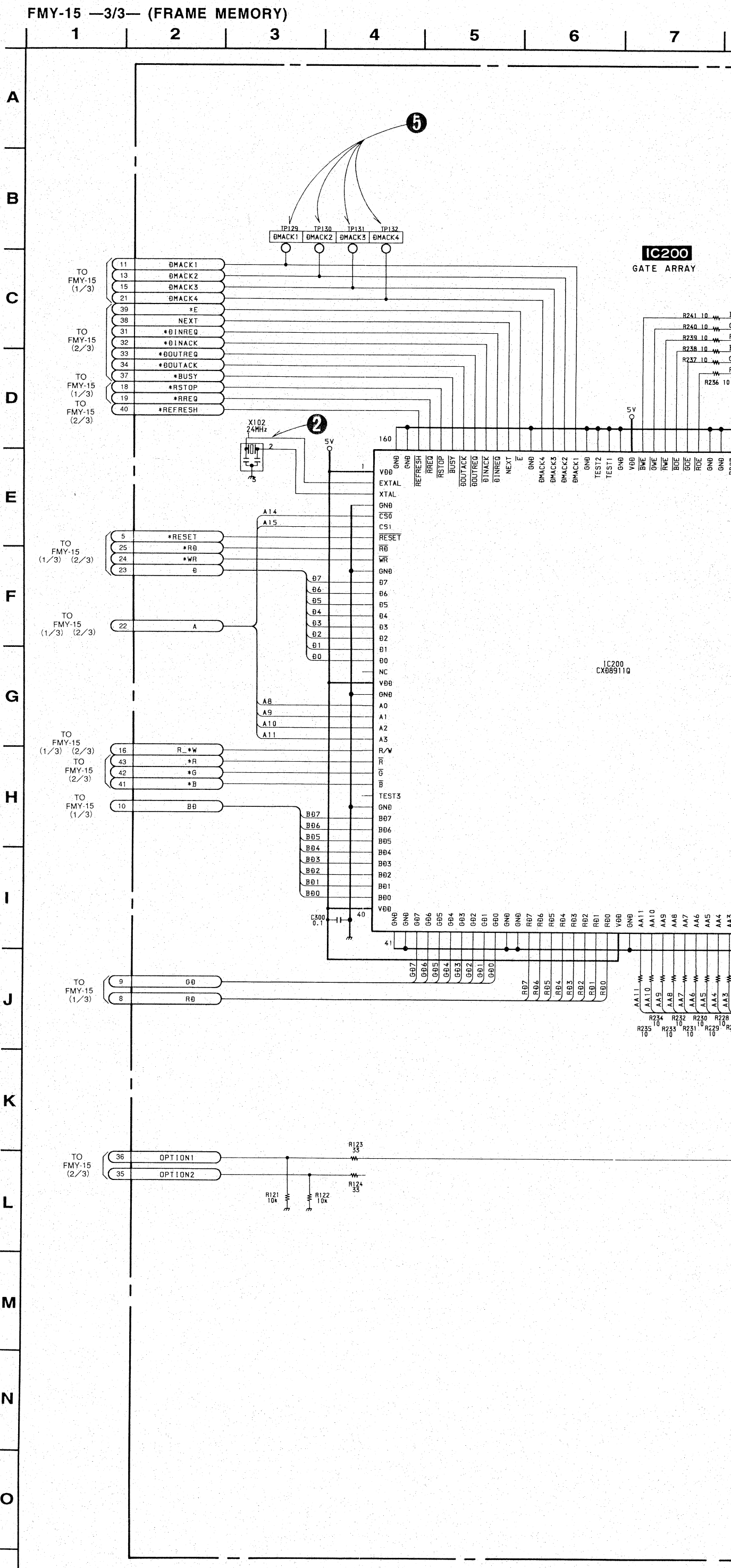
IC126 (4/4) HC00
C226 0.1
IC126 (3/4) HC00
IC124 (2/6) HC04





FMY-15 (2/3) BOARD

FMY-15 —3/3— (FRAME MEMORY)



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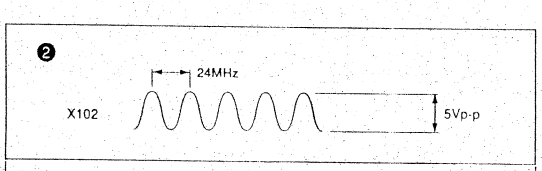
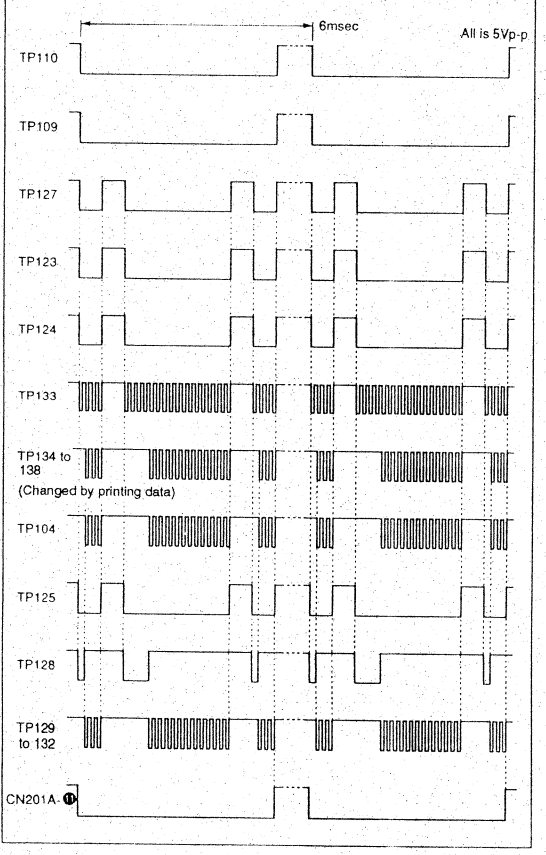
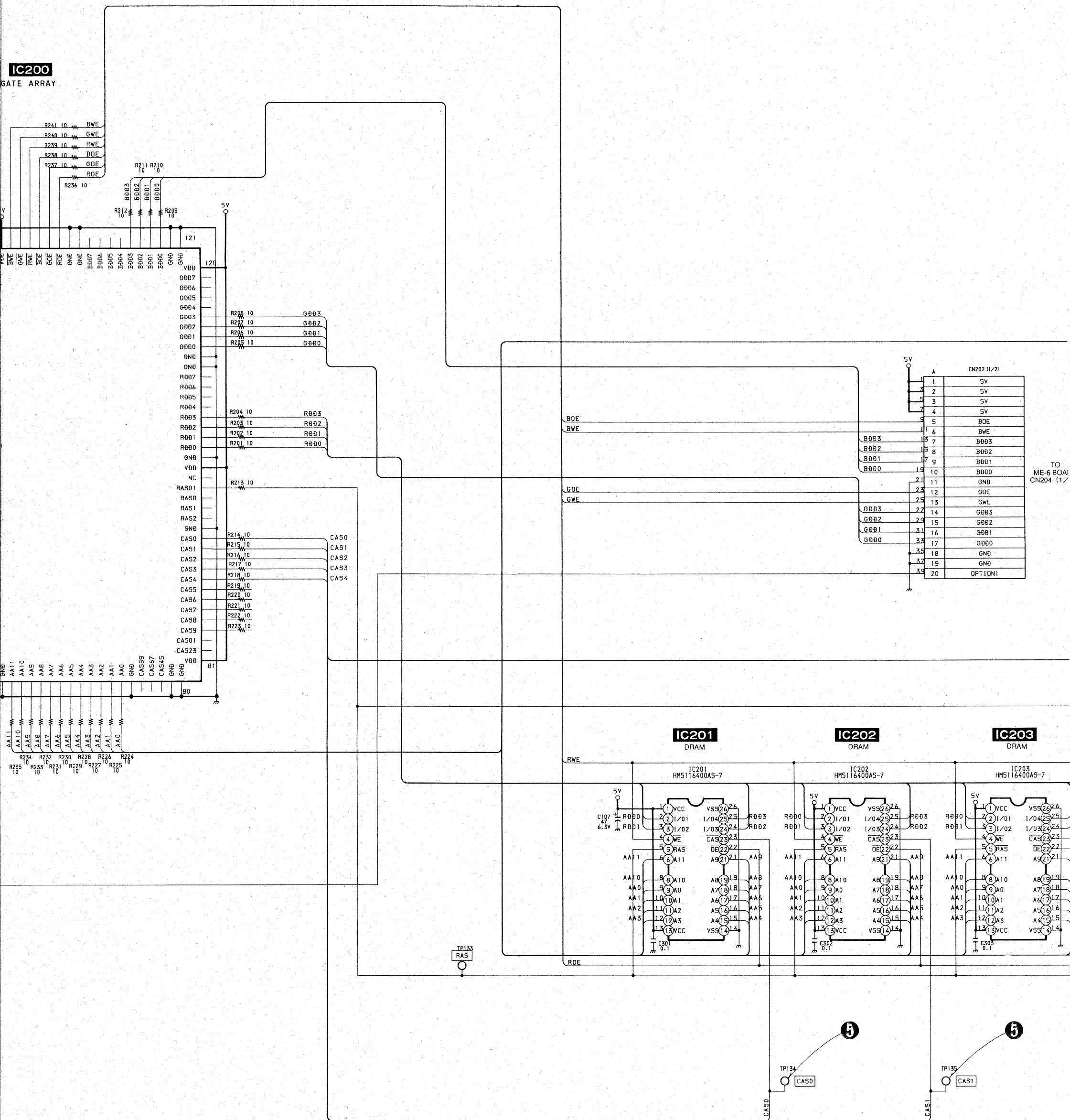


❺ During FMY printing (When printing OHP, period is changed)



FRAME MEMORY FMY-15 FRAME MEMORY FMY-15


IC200
GATE ARRAY
R241 10 BWE
R240 10 GWE
R239 10 RWE
R238 10 BOE
R237 10 GOE
R236 10 ROE
R211 10 R210 10
R212 10 R209 10
BD03 BD02 BD01 BD00
5V
121
120
81
80
VDD GND
BWE GWE RWE BOE GOE ROE
BD07 BD06 BD05 BD04 BD03 BD02 BD01 BD00
GD07 GD06 GD05 GD04 GD03 GD02 GD01 GD00
RD07 RD06 RD05 RD04 RD03 RD02 RD01 RD00
NC
RAS01 RAS0 RAS1 RAS2
CAS0 CAS1 CAS2 CAS3 CAS4 CAS5 CAS6 CAS7 CAS8 CAS9 CAS01 CAS23
CAS89 CAS67 CAS45
AA11 AA10 AA9 AA8 AA7 AA6 AA5 AA4 AA3 AA2 AA1 AA0
R208 10 GD03
R207 10 GD02
R206 10 GD01
R205 10 GD00
R204 10 RD03
R203 10 RD02
R202 10 RD01
R201 10 RD00
R213 10
R214 10 CAS0
R215 10 CAS1
R216 10 CAS2
R217 10 CAS3
R218 10 CAS4
R219 10
R220 10
R221 10
R222 10
R223 10
R234 10 R232 10 R230 10 R228 10 R226 10 R224 10
R235 10 R233 10 R231 10 R229 10 R227 10 R225 10
BOE
BWE
GOE
GWE
ROE
BD03 BD02 BD01 BD00
GD03 GD02 GD01 GD00
5V
CN202 (1/2)
A
1 5V
2 5V
3 5V
4 5V
5 BOE
6 BWE
7 BD03
8 BD02
9 BD01
10 BD00
11 GND
12 GOE
13 GWE
14 GD03
15 GD02
16 GD01
17 GD00
18 GND
19 GND
20 OPTION1
TO ME-6 BOAI CN204 (1/
IC201 DRAM
IC202 DRAM
IC203 DRAM
RWE
IC201 HM5116400AS-7
IC202 HM5116400AS-7
IC203 HM5116400AS-7
5V
C107 47 6.3V
RD00 RD01 RD02 RD03
1 VCC
2 I/O1
3 I/O2
4 WE
5 RAS
6 A11
8 A10
9 A0
10 A1
11 A2
12 A3
13 VCC
26 VSS
25 I/O4
24 I/O3
23 CAS
22 OE
21 A9
19 A8
18 A7
17 A6
16 A5
15 A4
14 VSS
AA11 AA10 AA0 AA1 AA2 AA3 AA9 AA8 AA7 AA6 AA5 AA4
C301 0.1
C302 0.1
C303 0.1
TP133 RAS
TP134 CAS0
TP135 CAS1
5
5

IC200
GATE ARRAY

R241 10 BWE
R240 10 GWE
R239 10 RWE
R238 10 BOE
R237 10 GOE
R236 10 ROE

R211 10 BD03
R210 10 BD02
R212 10 BD01
R209 10 BD00

5V

121
120
81
80

GND TEST2 3T1 GND VDD BWE GWE RWE BOE GOE ROE GND GND BD07 BD06 BD05 BD04 BD03 BD02 BD01 BD00 GND GND

VDD GD07 GD06 GD05 GD04 GD03 GD02 GD01 GD00 GND GND RD07 RD06 RD05 RD04 RD03 RD02 RD01 RD00 GND VDD NC RAS01 RAS0 RAS1 RAS2 GND CAS0 CAS1 CAS2 CAS3 CAS4 CAS5 CAS6 CAS7 CAS8 CAS9 CAS01 CAS23 VDD

R208 10 GD03
R207 10 GD02
R206 10 GD01
R205 10 GD00

R204 10 RD03
R203 10 RD02
R202 10 RD01
R201 10 RD00

R213 10

R214 10 CAS0
R215 10 CAS1
R216 10 CAS2
R217 10 CAS3
R218 10 CAS4
R219 10
R220 10
R221 10
R222 10
R223 10

RD1 RD0 VDD GND AA11 AA10 AA9 AA8 AA7 AA6 AA5 AA4 AA3 AA2 AA1 AA0 GND CAS89 CAS67 CAS45 GND GND

AA11 AA10 AA9 AA8 AA7 AA6 AA5 AA4 AA3 AA2 AA1 AA0
R234 10 R232 10 R230 10 R228 10 R226 10 R224 10
R235 10 R233 10 R231 10 R229 10 R227 10 R225 10

BOE
BWE
GOE
GWE

BD03 BD02 BD01 BD00 GD03 GD02 GD01 GD00

5V

CN202 (1/2)

A	
1	5V
2	5V
3	5V
4	5V
5	BOE
6	BWE
7	BD03
8	BD02
9	BD01
10	BD00
11	GND
12	GOE
13	GWE
14	GD03
15	GD02
16	GD01
17	GD00
18	GND
19	GND
20	OPTION1

IC201
DRAM
IC201
HM5116400AS-7

IC202
DRAM
IC202
HM5116400AS-7

IC203
DRAM
IC203
HM5116400A

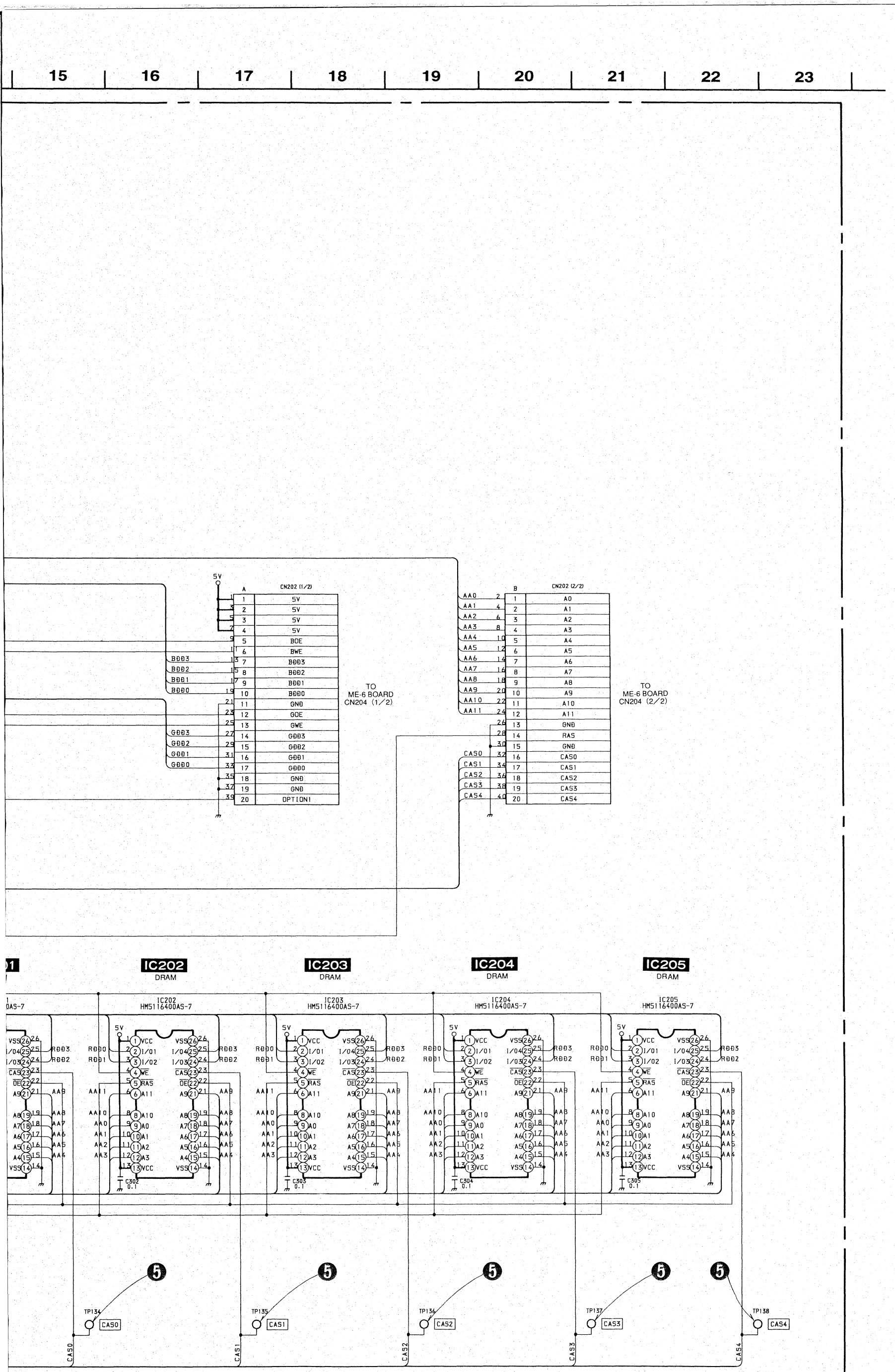
RWE
ROE

5V
C107 47 6.3V
RD00 RD01 RD03 RD02
VCC I/O1 I/O2 WE RAS A11 A10 A0 A1 A2 A3 I/O4 I/O3 CAS OE A9 A8 A7 A6 A5 A4 VSS
AA11 AA10 AA0 AA1 AA2 AA3 AA9 AA8 AA7 AA6 AA5 AA4
C301 0.1
C302 0.1
C303 0.1

TP133 RAS

TP134 CAS0
TP135 CAS1

CAS0
CAS1

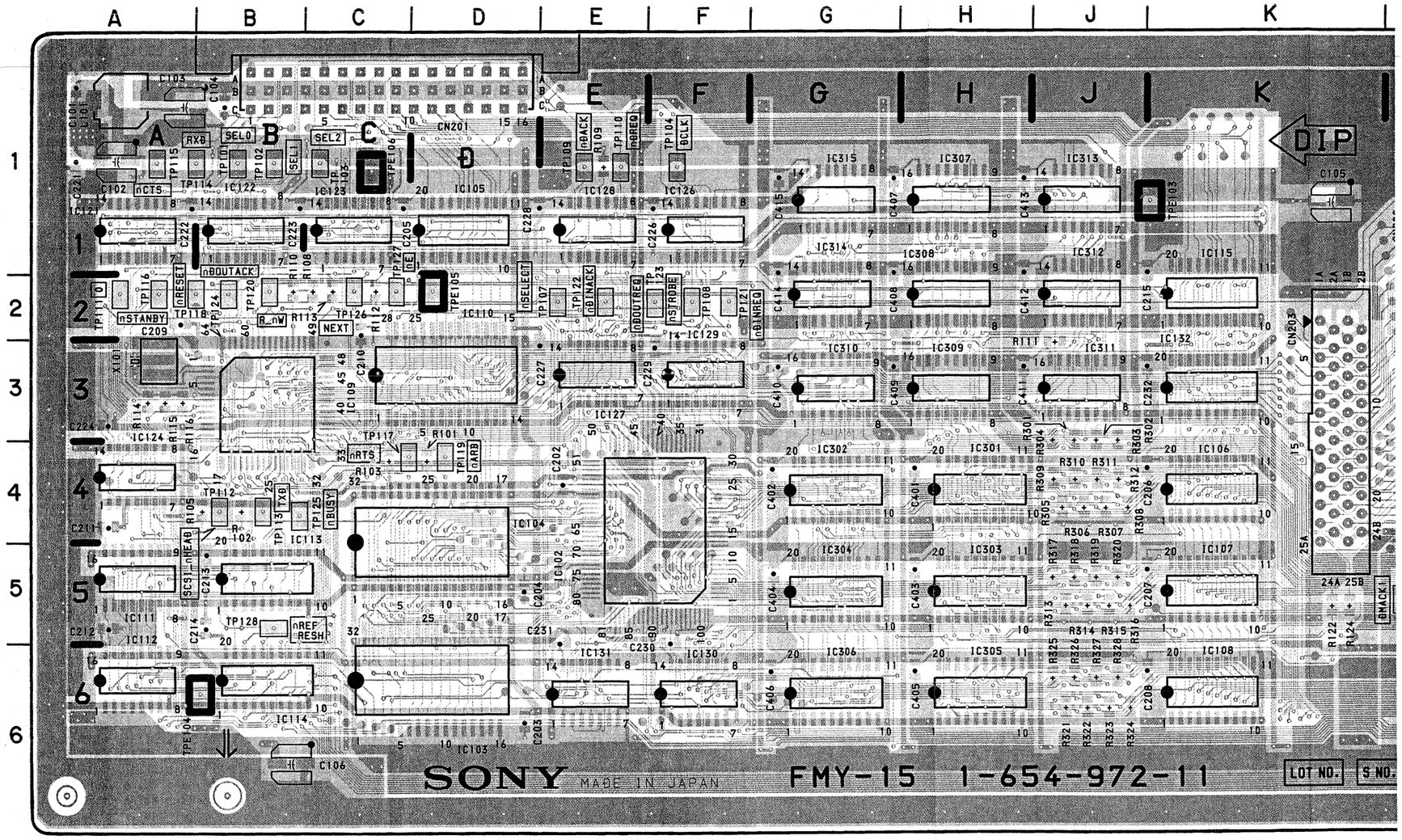


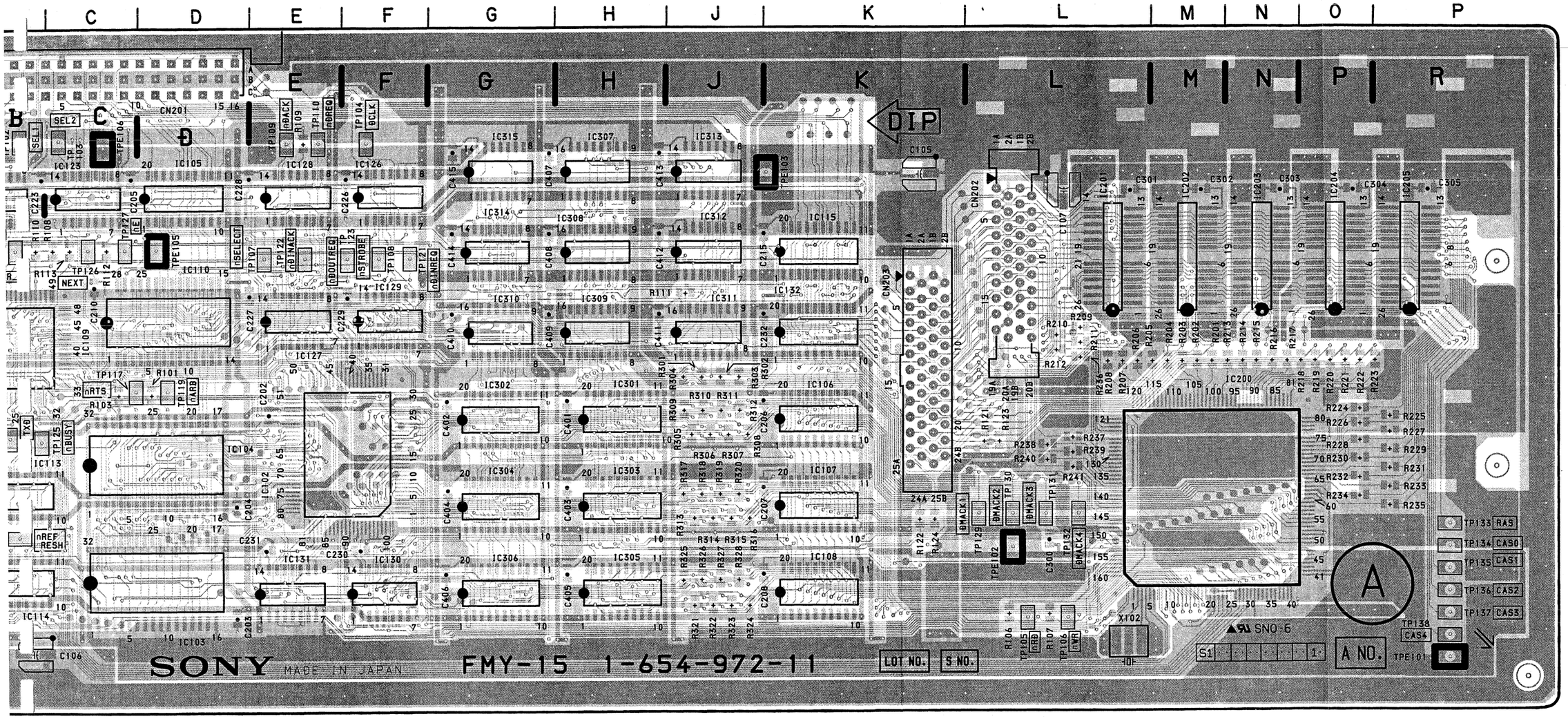
FMY-15 (3/3) BOARD

FMY-15 (FRAME MEMORY)

FMY-15 BOARD

IC102	E-4
IC103	D-6
IC104	D-4
IC105	D-1
IC106	K-4
IC107	K-5
IC108	K-6
IC109	C-3
IC110	D-3
IC111	A-5
IC112	A-6
IC113	B-5
IC114	B-6
IC115	K-2
IC121	A-1
IC122	B-1
IC123	C-1
IC124	A-4
IC126	F-1
IC127	E-3
IC128	E-1
IC129	F-3
IC130	F-6
IC131	E-6
IC132	K-3
IC200	N-4
IC201	L-1
IC202	M-1
IC203	N-1
IC204	P-1
IC205	R-1
L101	A-1





FMY-15 -COMPONENT SIDE-
1-654-972-11

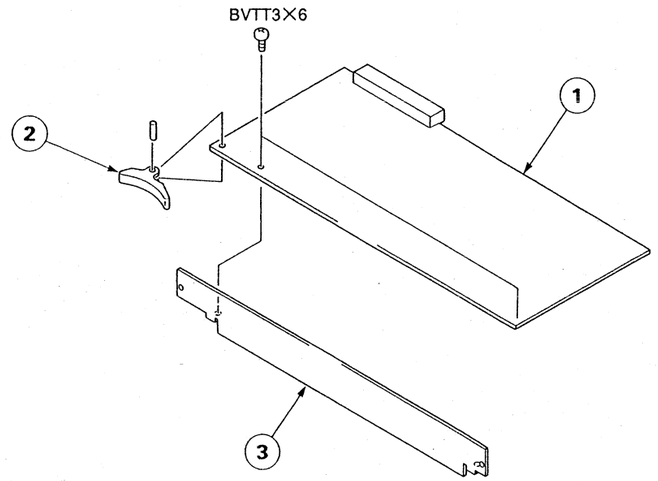
SECTION 4
EXPLODED VIEW

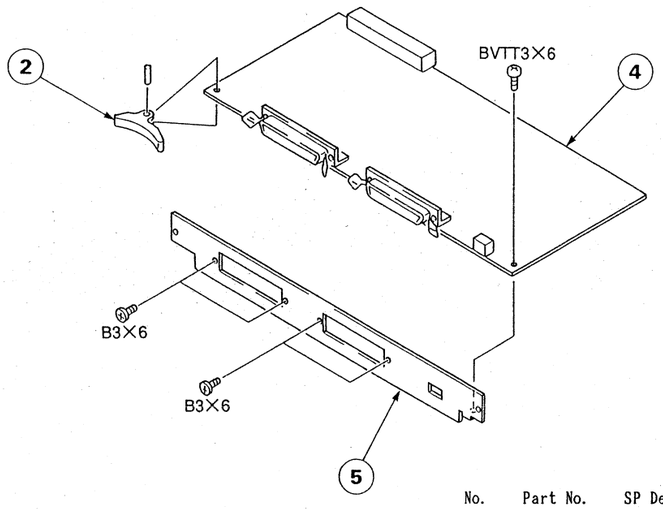
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "O" in the SP column are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

4-1. UPK-8800SC (Option)





No.	Part No.	SP	Description
1	1-654-972-11	o	PRINTED CIRCUIT BOARD, FMY-15
2	3-179-084-01	s	LEVER (R), PC BOARD
3	3-683-181-01	o	PANEL, FMY
4	1-654-971-11	o	PRINTED CIRCUIT BOARD, IF-33
5	3-683-180-01	o	PANEL, IF

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
- Items marked "O" in the SP column are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise stated.

When indicating part by reference number, please include the board name.

RESISTORS
- All resistors are in ohms.
- F:non-flammable

CAPACITORS
- MF: μF, PF: μμF

COILS
- MMH: mH, UH: μH

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

FMY-15 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-972-11	o	PRINTED CIRCUIT BOARD, FMY-15
1pc	3-179-084-01	s	LEVER (R), PC BOARD
1pc	3-683-181-01	o	PANEL, FMY
2pcs	7-685-871-01	s	SCREW +BVTT 3X6 (S)
			<CAPACITOR>
C101	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C102	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C103	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C104	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C106	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C107	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C202	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C203	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C205	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C207	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C209	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C211	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C214	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C222	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C226	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C227	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C230	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C232	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C300	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C301	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C302	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C303	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C304	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C305	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
			<CONNECTOR>
CN201	1-569-465-11	o	PIN, DIN CONNECTOR (DIP) 48P
CN202	1-766-196-11	o	CONNECTOR, BOARD TO BOARD 40P
			<IC>
IC102	8-759-194-80	s	IC CXD8869Q
IC103	8-759-332-28	o	IC 27C2001-FMY15SV1.0
IC104	8-759-332-31	o	IC 27C8001-FMY15MV1.0
IC105	8-759-926-67	s	IC SN74HC374ANS
IC106	8-759-926-49	s	IC SN74HC245ANS
IC107	8-759-926-49	s	IC SN74HC245ANS
IC108	8-759-926-49	s	IC SN74HC245ANS
IC109	8-759-327-83	s	IC HD6433228A69F
IC110	8-759-327-82	s	IC HMT2256ALF8EL

(FMY-15 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC111	8-759-926-98	s	IC SN74HC4040ANS
IC112	8-759-926-98	s	IC SN74HC4040ANS
IC113	8-759-926-48	s	IC SN74HC244ANS
IC114	8-759-926-48	s	IC SN74HC244ANS
IC115	8-759-926-48	s	IC SN74HC244ANS
IC121	8-759-925-85	s	IC SN74HC32ANS
IC122	8-759-927-46	s	IC SN74HC00ANS
IC123	8-759-926-05	s	IC SN74HC125ANS
IC124	8-759-925-74	s	IC SN74HC04ANS
IC126	8-759-927-46	s	IC SN74HC00ANS
IC127	8-759-925-85	s	IC SN74HC32ANS
IC128	8-759-925-76	s	IC SN74HC08ANS
IC129	8-759-926-05	s	IC SN74HC125ANS
IC130	8-759-925-76	s	IC SN74HC08ANS
IC131	8-759-925-85	s	IC SN74HC32ANS
IC132	8-759-926-67	s	IC SN74HC374ANS
IC200	8-759-508-87	s	IC CXD8911Q
IC201	8-759-332-65	s	IC HM5116400AS7GSEL
IC202	8-759-332-65	s	IC HM5116400AS7GSEL
IC203	8-759-332-65	s	IC HM5116400AS7GSEL
IC204	8-759-332-65	s	IC HM5116400AS7GSEL
IC205	8-759-332-65	s	IC HM5116400AS7GSEL
			<COIL>
L101	1-424-653-11	s	COIL, CHOKE 10UH
			<RESISTOR>
R101	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R102	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R103	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R105	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R106	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R107	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R108	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R109	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R110	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R111	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R112	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R113	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R114	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R115	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R116	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R121	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R122	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W

(FMY-15 BO

Ref. No. or Q'ty	P
R123	1
R124	1
R201	1
R202	1
R203	1
R204	1
R205	1
R206	1
R207	1
R208	1
R209	1
R210	1
R211	1
R212	1
R213	1
R214	1
R215	1
R216	1
R217	1
R218	1
R219	1
R220	1
R221	1
R222	1
R223	1
R224	1
R225	1
R226	1
R227	1
R228	1
R229	1
R230	1
R231	1
R232	1
R233	1
R234	1
R235	1
R236	1
R237	1
R238	1
R239	1
R240	1
R241	1
R301	1
R302	1
R303	1
R304	1
R305	1
R306	1
R307	1
R308	1
R309	1
R310	1
R311	1
R312	1
R313	1
R314	1
R315	1
R316	1
R317	1

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
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When indicating part by reference number, please include the board name.

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- All resistors are in ohms.
- F:non-flammable

CAPACITORS
- MF: μF, PF: μμF

COILS
- MMH: mH, UH: μH

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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Ne les remplacer que par une piece portant le numero specifie.

FMY-15 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-972-11	o	PRINTED CIRCUIT BOARD, FMY-15
1pc	3-179-084-01	s	LEVER (R), PC BOARD
1pc	3-683-181-01	o	PANEL, FMY
2pcs	7-685-871-01	s	SCREW +BVTT 3X6 (S)
			<CAPACITOR>
C101	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C102	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C103	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C104	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C106	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C107	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C202	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C203	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C205	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C207	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C209	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C211	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C214	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C222	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C226	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C227	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C230	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C232	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C300	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C301	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C302	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C303	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C304	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C305	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
			<CONNECTOR>
CN201	1-569-465-11	o	PIN, DIN CONNECTOR (DIP) 48P
CN202	1-766-196-11	o	CONNECTOR, BOARD TO BOARD 40P
			<IC>
IC102	8-759-194-80	s	IC CXD8869Q
IC103	8-759-332-28	o	IC 27C2001-FMY15SV1.0
IC104	8-759-332-31	o	IC 27C8001-FMY15MV1.0
IC105	8-759-926-67	s	IC SN74HC374ANS
IC106	8-759-926-49	s	IC SN74HC245ANS
IC107	8-759-926-49	s	IC SN74HC245ANS
IC108	8-759-926-49	s	IC SN74HC245ANS
IC109	8-759-327-83	s	IC HD6433228A69F
IC110	8-759-327-82	s	IC HMT2256ALF8EL

(FMY-15 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC111	8-759-926-98	s	IC SN74HC4040ANS
IC112	8-759-926-98	s	IC SN74HC4040ANS
IC113	8-759-926-48	s	IC SN74HC244ANS
IC114	8-759-926-48	s	IC SN74HC244ANS
IC115	8-759-926-48	s	IC SN74HC244ANS
IC121	8-759-925-85	s	IC SN74HC32ANS
IC122	8-759-927-46	s	IC SN74HC00ANS
IC123	8-759-926-05	s	IC SN74HC125ANS
IC124	8-759-925-74	s	IC SN74HC04ANS
IC126	8-759-927-46	s	IC SN74HC00ANS
IC127	8-759-925-85	s	IC SN74HC32ANS
IC128	8-759-925-76	s	IC SN74HC08ANS
IC129	8-759-926-05	s	IC SN74HC125ANS
IC130	8-759-925-76	s	IC SN74HC08ANS
IC131	8-759-925-85	s	IC SN74HC32ANS
IC132	8-759-926-67	s	IC SN74HC374ANS
IC200	8-759-508-87	s	IC CXD8911Q
IC201	8-759-332-65	s	IC HM5116400AS7GSEL
IC202	8-759-332-65	s	IC HM5116400AS7GSEL
IC203	8-759-332-65	s	IC HM5116400AS7GSEL
IC204	8-759-332-65	s	IC HM5116400AS7GSEL
IC205	8-759-332-65	s	IC HM5116400AS7GSEL
			<COIL>
L101	1-424-653-11	s	COIL, CHOKE 10UH
			<RESISTOR>
R101	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R102	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R103	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R105	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R106	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R107	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R108	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R109	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R110	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R111	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R112	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R113	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R114	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R115	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R116	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R121	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R122	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W

(FMY-15 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R123	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R124	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R201	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R202	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R203	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R204	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R205	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R206	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R207	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R208	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R209	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R210	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R211	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R212	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R213	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R214	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R215	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R216	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R217	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R218	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R219	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R220	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R221	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R222	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R223	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R224	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R225	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R226	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R227	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R228	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R229	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R230	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R231	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R232	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R233	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R234	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R235	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R236	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R237	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R238	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R239	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R240	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R241	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R301	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R302	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R303	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R304	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R305	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R306	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R307	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R308	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R309	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R310	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R311	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R312	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R313	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R314	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R315	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R316	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R317	1-216-295-91	s	METAL CHIP 0 5% 1/10W

(FMY-15 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R318	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R319	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R320	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R321	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R322	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R323	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R324	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R325	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R326	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R327	1-216-295-91	s	METAL CHIP 0 5% 1/10W
R328	1-216-295-91	s	METAL CHIP 0 5% 1/10W
			<CRYSTAL>
X101	1-579-907-21	s	VIBRATOR, CERAMIC
X102	1-579-906-21	s	RESONATOR, CERAMIC 24MHz

IF-33 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-971-11	o	PRINTED CIRCUIT BOARD, IF-33
1pc	3-179-084-01	s	LEVER (R), PC BOARD
1pc	3-683-180-01	o	PANEL, IF
2pcs	7-685-871-01	s	SCREW +BVTT 3X6 (S)
			<CAPACITOR>
C100	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C102	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C104	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C105	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C200	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C202	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C204	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C206	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C300	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C302	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C304	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C309	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C311	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C313	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C400	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C401	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C402	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C450	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C451	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C452	1-135-155-21	s	TANTALUM, CHIP 4.7uF 10% 16V
C453	1-135-155-21	s	TANTALUM, CHIP 4.7uF 10% 16V
C454	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C456	1-135-155-21	s	TANTALUM, CHIP 4.7uF 10% 16V
C457	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C500	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C503	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C505	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C600	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C601	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V

(IF-33 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
			<CONNECTOR>
CN101	1-569-465-11	o	PIN, DIN CONNECTOR (DIP) 48P
CN102	1-770-210-11	o	RECEPTACLE, ANPHENOL 50P
CN103	1-770-210-11	o	RECEPTACLE, ANPHENOL 50P
			<DIODE>
D400	8-719-975-33	s	DIODE RB110C-T101
			<IC>
IC100	8-759-926-21	s	IC SN74HC161ANS
IC101	8-759-926-21	s	IC SN74HC161ANS
IC102	8-759-926-21	s	IC SN74HC161ANS
IC103	8-759-926-21	s	IC SN74HC161ANS
IC104	8-759-327-82	s	IC HMT2256ALF8EL
IC105	8-759-926-49	s	IC SN74HC245ANS
IC106	8-759-926-49	s	IC SN74HC245ANS
IC200	8-759-926-21	s	IC SN74HC161ANS
IC201	8-759-926-21	s	IC SN74HC161ANS
IC202	8-759-926-21	s	IC SN74HC161ANS
IC203	8-759-926-21	s	IC SN74HC161ANS
IC204	8-759-327-82	s	IC HMT2256ALF8EL
IC205	8-759-926-49	s	IC SN74HC245ANS
IC206	8-759-926-49	s	IC SN74HC245ANS
IC300	8-759-327-83	s	IC HD6433228A69F
IC301	8-759-926-11	s	IC SN74HC138ANS
IC302	8-759-327-82	s	IC HMT2256ALF8EL
IC303	8-759-926-05	s	IC SN74HC125ANS
IC304	8-759-926-48	s	IC SN74HC244ANS
IC305	8-759-926-48	s	IC SN74HC244ANS
IC306	8-759-239-23	s	IC TC74HC86AF
IC307	8-759-925-85	s	IC SN74HC32ANS
IC308	8-759-925-85	s	IC SN74HC32ANS
IC309	8-759-925-90	s	IC SN74HC74ANS
IC310	8-759-925-74	s	IC SN74HC04ANS
IC311	8-759-926-98	s	IC SN74HC4040ANS
IC312	8-759-926-98	s	IC SN74HC4040ANS
IC313	8-759-926-67	s	IC SN74HC374ANS
IC315	8-759-926-48	s	IC SN74HC244ANS
IC316	8-759-925-76	s	IC SN74HC08ANS
IC400	8-752-356-36	s	IC CXD1185CQ
IC401	8-759-925-90	s	IC SN74HC74ANS
IC402	8-759-925-90	s	IC SN74HC74ANS
IC403	8-759-327-81	s	IC DS21S07AE
IC404	8-759-327-81	s	IC DS21S07AE
IC500	8-759-926-21	s	IC SN74HC161ANS
IC501	8-759-926-18	s	IC SN74HC157ANS
IC502	8-759-926-18	s	IC SN74HC157ANS
IC503	8-759-926-18	s	IC SN74HC157ANS
IC504	8-759-927-46	s	IC SN74HC00ANS
IC505	8-759-925-85	s	IC SN74HC32ANS
IC506	8-759-925-85	s	IC SN74HC32ANS
			<COIL>
L600	1-424-653-11	s	COIL, CHOKE 10UH
			<RESISTOR>
R301	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R302	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W

(IF-33 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R303	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R304	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R305	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R306	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R307	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R308	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R309	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R310	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R311	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R437	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R438	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
			<SWITCH>
S300	1-571-780-11	s	SWITCH, DIP (4 KEY)
			<CRYSTAL>
X300	1-760-606-21	s	RESONATOR, CERAMIC 20MHz

PACKING MATERIALS & SUPPLIED ACCESSORIES

Ref. No. or Q'ty	Part No.	SP	Description
2pcs	3-704-046-31	s	BAG, PREVENTION, ELECTRIFICATION
1pc	3-798-137-21	s	MANUAL, INSTRUCTION [for EK]
1pc	3-798-137-11	s	MANUAL, INSTRUCTION [for UC]
4pcs	7-682-547-04	s	SCREW +B 3X6

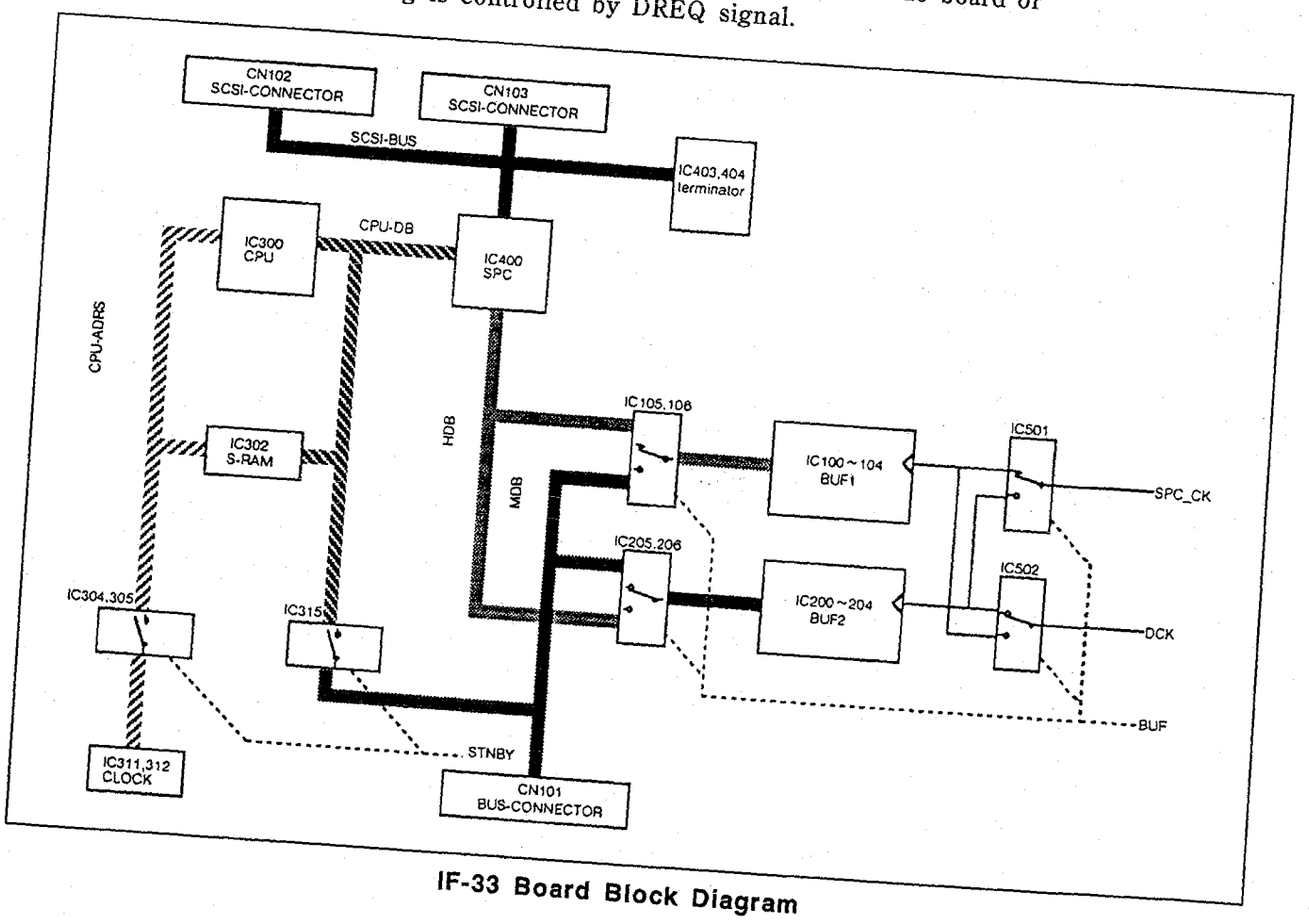
SECTION 6
CIRCUIT OPERATION DESCRIPTION

6-1. IF-33 BOARD CIRCUIT OPERATION DESCRIPTION

6-1-1. Outline

SCSI board is equipped following function.
- Control of SCSI
- Serial communication with SY-12 board
- Data transmission of bus
- Generation of test pattern

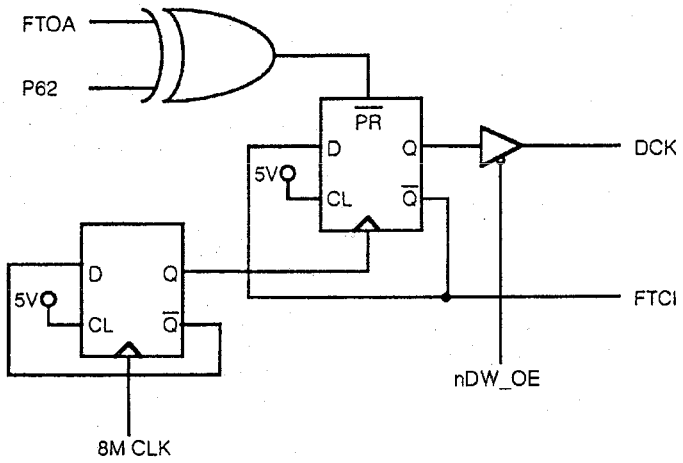
This board is composed CPU peripheral, SPC peripheral and double buffer peripheral.
CPU performs command of SCSI, command interpretation of serial communication, control of various timings and generation of DCK and so on.
Image data from SPC uses S-RAM of IC104, 204 as double buffer. Reading and writing are performed alternately. And is fed to FMY-15 board or SY-12 board.
In case reading from FMY-15 board, operation becomes reverse, and is fed to SPC.
In SPC side, this timing is controlled by DMA function, and in FMY-15 board or SY-12 board side, this timing is controlled by DREQ signal.

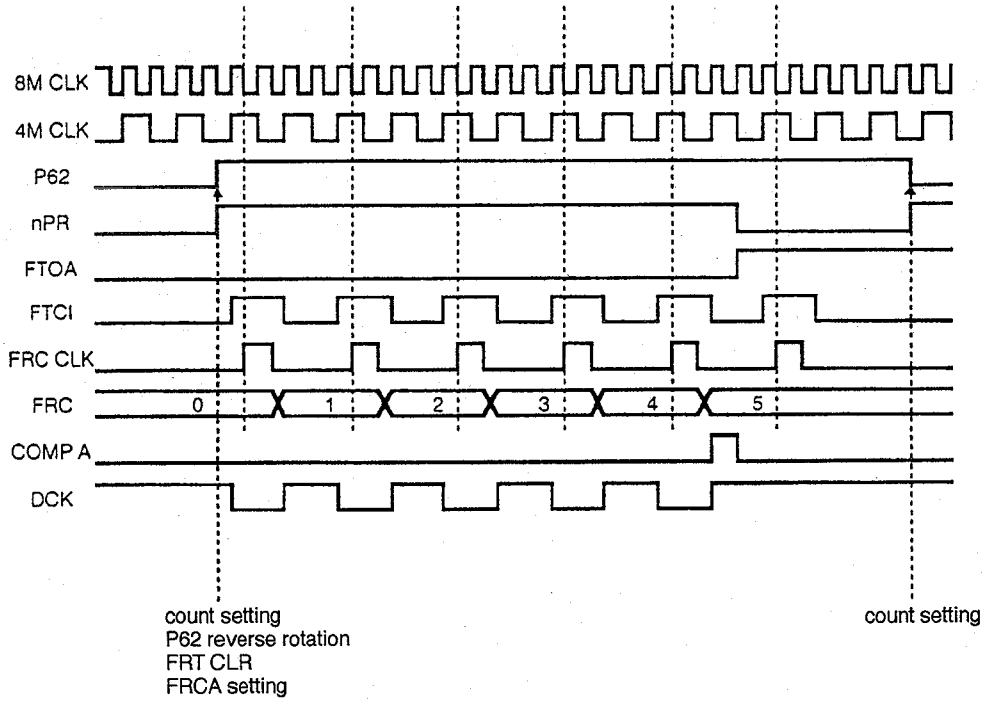


IF-33 Board Block Diagram

6-1-2. CPU Peripheral

CPU is used H8/322. Farmware is stored at ROM on the SY-12 board. When turning on the power, Farmware pass through data bus and is transmitted to IC302 (256Kbit S-RAM). This RAM also can be read and write by CPU on this board. And this RAM is used as work area except program territory.
As a special function, data transmission clock to SY-12 board is generated. This is performed by using 16bit counter including the CPU. Sequence of timing generation is as follows.
16bit counter starts by reversing P62, when approaching the setting counter value from CPU, FTOA rotates reversely.
DCK of regulation quantity is generated by controlling the output period of clock using these two signal.

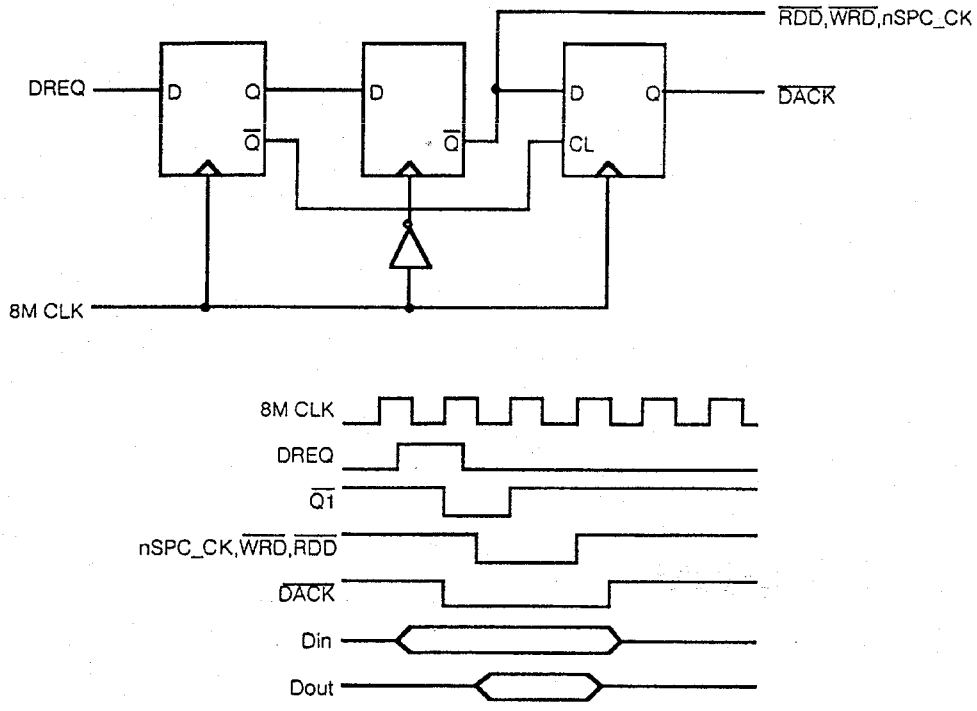




DCK Generation Timing

6-1-3. SPC Peripheral

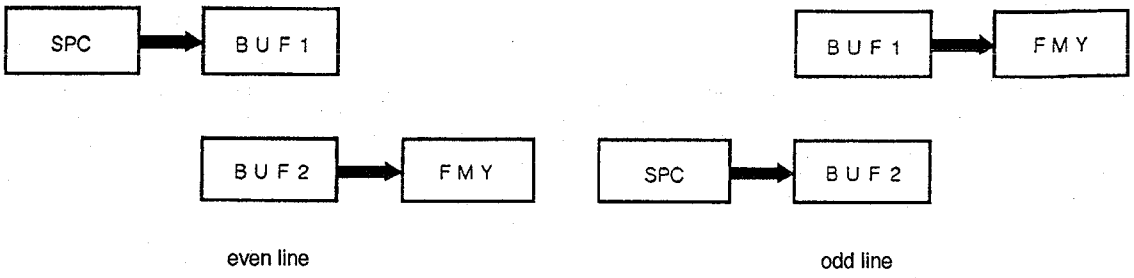
SPC is used CXD1185CQ. Transmission of data is used DMA function of SPC. DMA controller is composed by DREQ or DACK signal.
Transmission speed is 2.6MHz at maximum synchronous transmission, 4MHz at maximum asynchronous transmission.
Timing of transmission is as follows.



SPC DREQ,DACK Timing

6-1-4. Double Buffer Peripheral

Double buffer peripheral controls transmission of SPC→Buffer and Buffer→Internal buss. Transmission of SPC→buffer is controlled by SPC, transmission of buffer →internal buss is controlled by CPU or DREQ signal from other board.
Dot sequence data is changed to line sequence data when writing in this buffer, and is transmitted.
BUF1 and BUF2 of buffer is used alternately, transmission is performed efficiently.
Double buffer operation of SEND IMAGE DATA is as follows.



6-2. FMY-15 BOARD CIRCUIT OPERATION DESCRIPTION

6-2-1. Outline

Main function of this board is as follows.
- Picture data receiving from IF-33 board.
- Picture data transmission to IF-33 board.
- Printing data transmission to SY-12 board.
- Conversion (color pallet, masking) from picture data to printing data.

6-2-2. CPU Peripheral Section

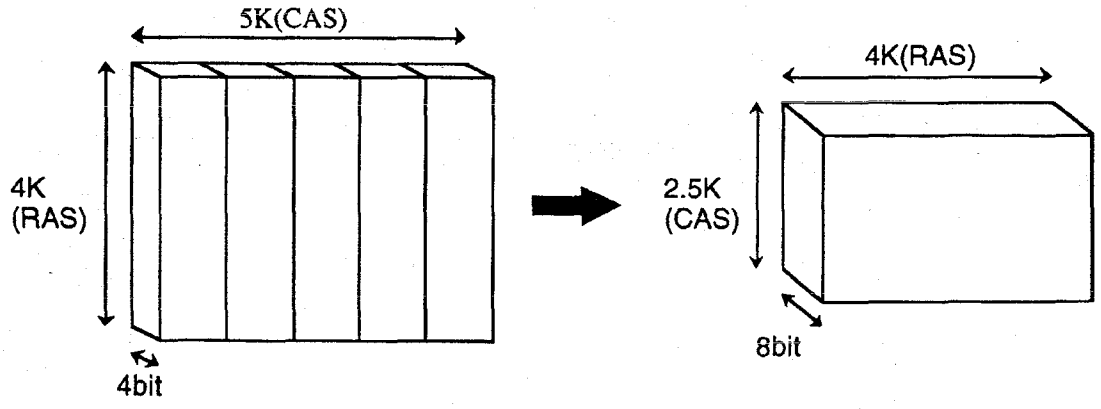
One of this unit feature is concentration of program ROM. So this board has S-RAM instead of program ROM. When turning ON the power, nSTROBE signal as clock, program is transmitted from SY-12 board. This nSTROBE signal is used WR signal of S-RAM IC110. The other side, nSTROBE signal is input to counter IC111, 112 and makes address. Details are refer to SY-12 board circuit operation description.
Serial transmission to SY-12 board is used asynchronous transmission including in CPU IC109. Data transmission format is

Data : 8bit
Stop bit : 1bit
Parity : none
Baud rate : 31250bps

Details are refer to SY-12 board circuit operation description.

6-2-3. Memory Peripheral Section

Memory peripheral section is composed by gate arrey (IC200) of memory control and D-RAM (IC201 to 205, ME-6 board IC211 to 215, 221 to 225).
Memory space is composed by five 16Mbit D-RAMs 4096(RAS)*5120(CAS)*4bit. Truly, it use to consider 4096*2560*8bit by placing 8bit data to each 4bit toward CAS direction. This means one color memory space. This 8bit⇔4bit conversion is performed at memory control gate arrey IC200.



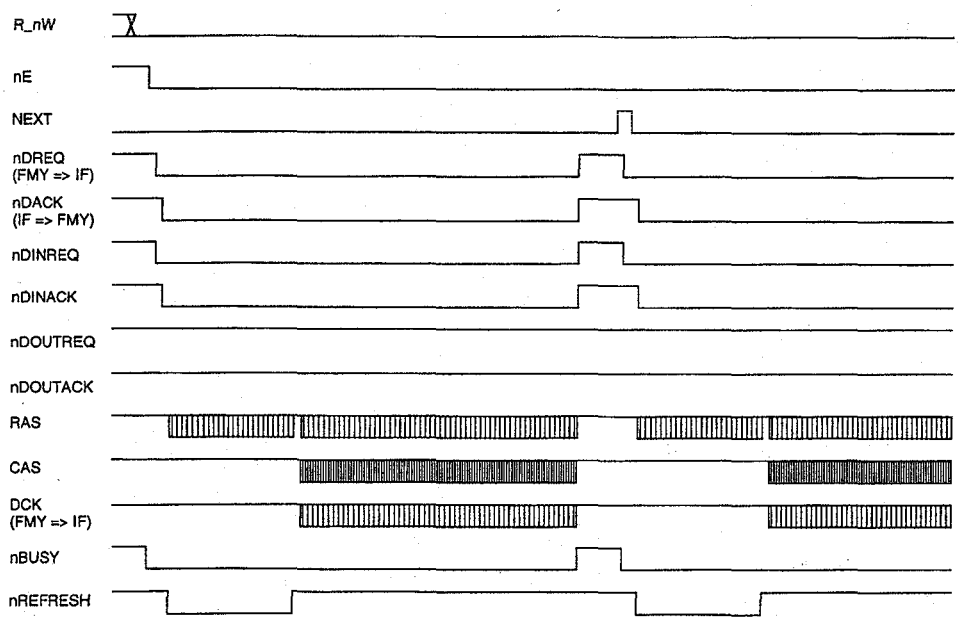
True memory space (one aspect) **Relative memory space (one aspect)**

FMY-15 board has one color memory, and by adding ME-6 board, it becomes three colors memory. At that time, IC201 to 205 are RED ch, IC211 to 215 are GREEN ch, IC221 to 225 are BLUE ch.

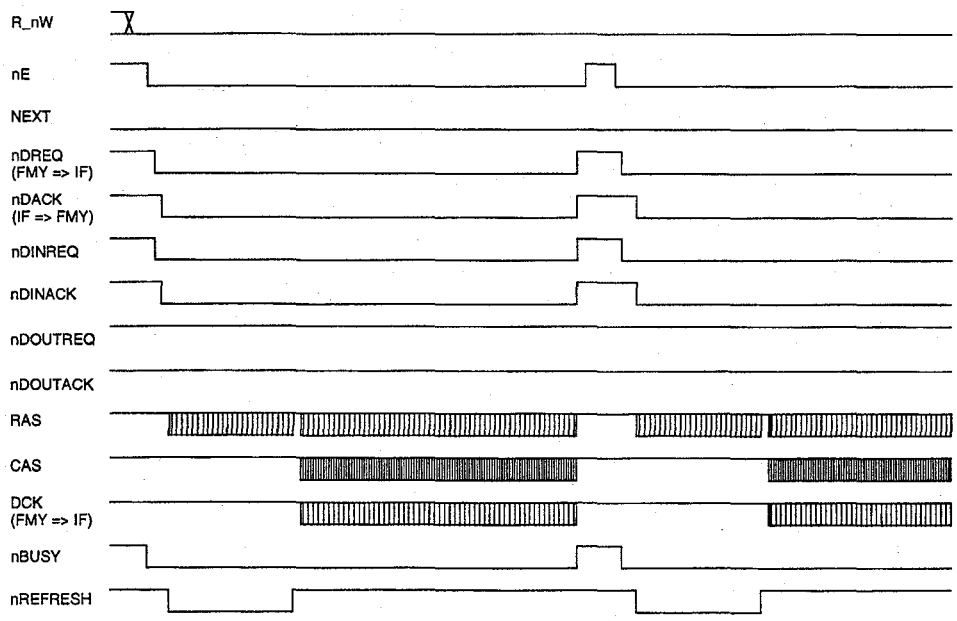
6-2-4. Picture Data Receiving from IF-33 Board

At this time, picture data is distributed from CN201 to IC106, 107, 108, via IC200 and is fed to D-RAM. The transmission speed of picture data is 4MHz.
In case aspect sequential, DMA is performed at every aspect by using NEXT signal.
In case dot sequential, DMA is repeated every one line, R, G, B, R, G, B·····.

Aspect sequential transmission



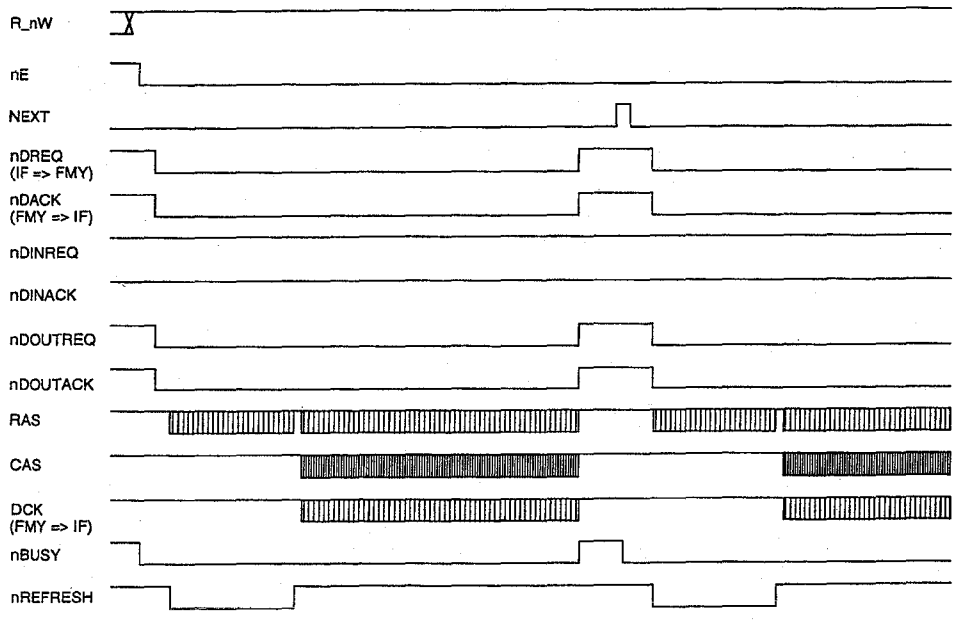
Dot sequential transmission



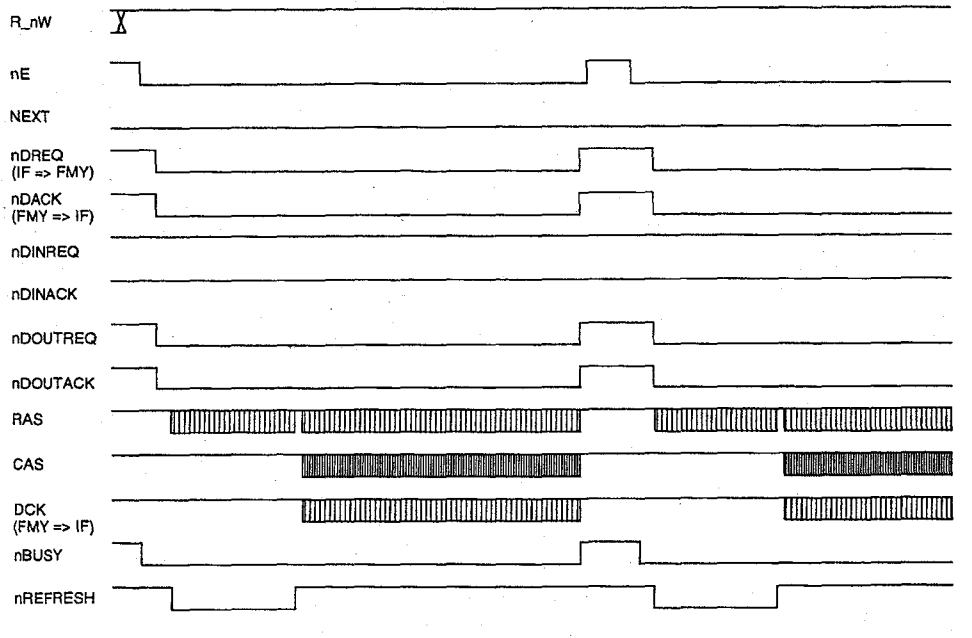
6-2-5. Picture Data Transmission to IF-33 Board

At this time, picture data is fed from D-RAM via IC200. And selected one channel from IC106, 107, 108. And is fed from CN201. The transmission speed of picture data is 4MHz.
In case aspect sequential, DMA is performed at every aspect by using NEXT signal.
In case dot sequential, DMA is repeated every one line, R, G, B, R, G, B·····.

Aspect sequential transmission

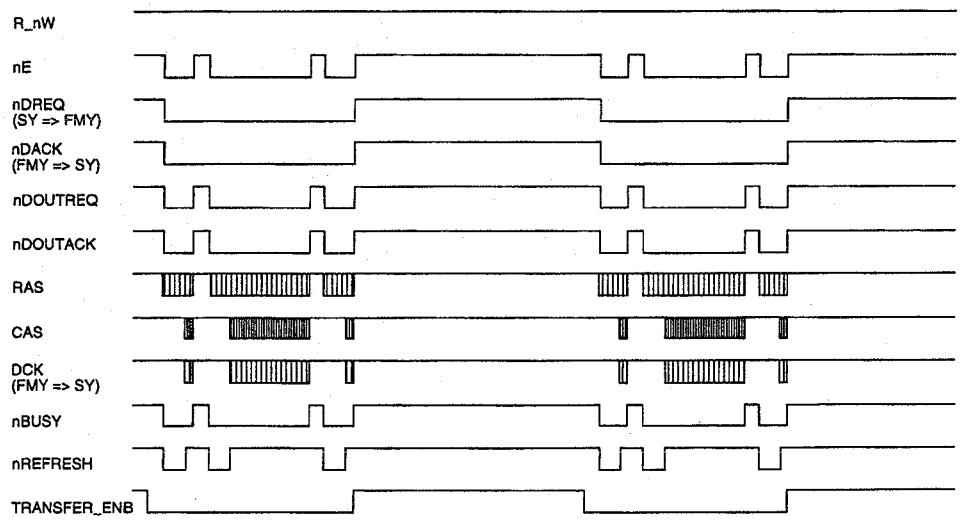


Dot sequential transmission



6-2-6. Printing Data Transmission to SY-12 Board

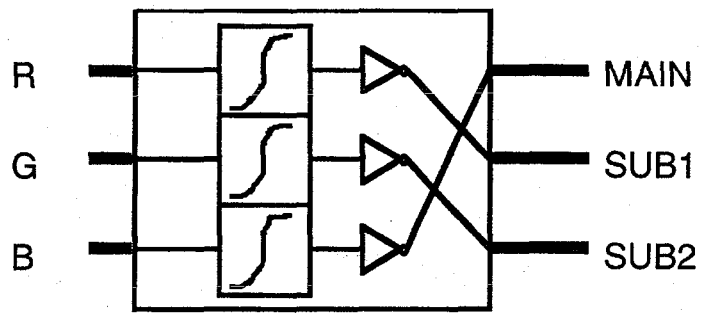
At this time, picture data is fed from D-RAM via IC200. And is passed through COLOR PALETTE IC IC102, MASKING ROM IC103, 104, D-FF IC105. And is fed from CN201. The transmission speed of printing data is 2MHz.



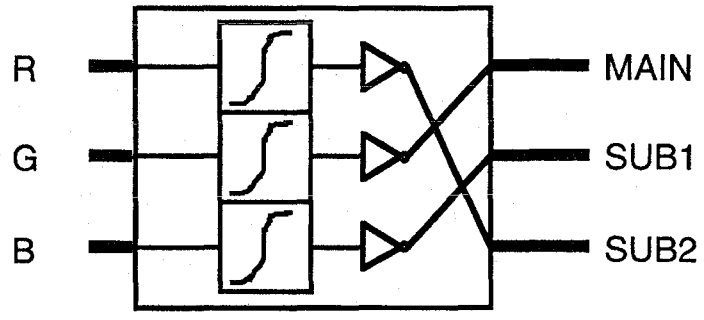
Color adjustment and development of palette data (8bit data) are performed at COLOR PALETTE IC (IC102). MAIN, SUB1, SUB2 data are coincide printing ribbon colors and are set each 8bit data. And data is fed to masking ROM. Function of IC102 is as follows.

◆ 30Mbyte memory (When ME-6 adding) in case RGB data

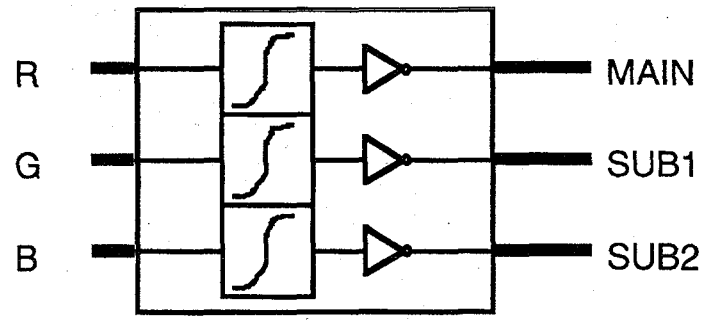
Y Printing



M Printing



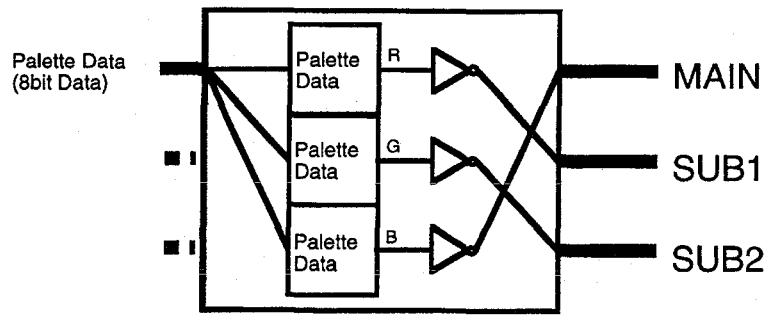
C Printing



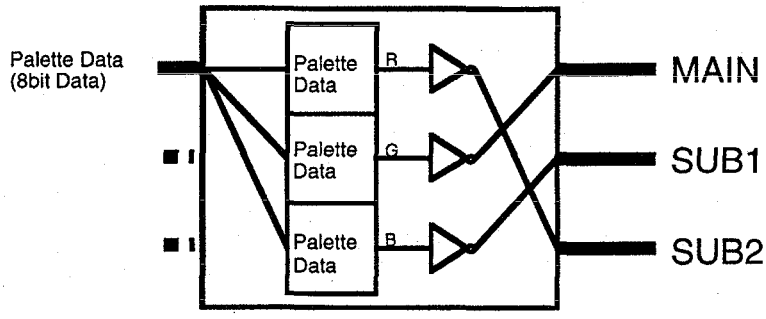
In case B/W ribbon, it is same as magenta printing.

◆ 10Mbyte memory In case CMY data

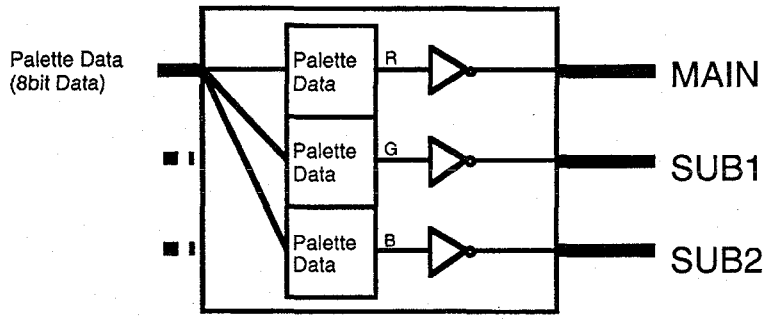
Y Printing



M Printing

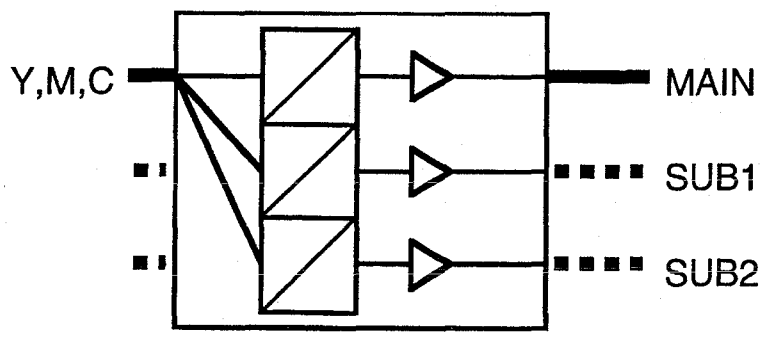


C Printing

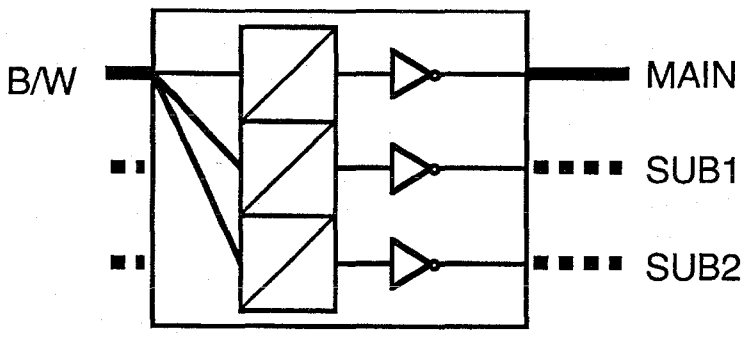


In case B/W ribbon, it is same as magenta printing.

◆ In case palette data (8bit data)
Regardless of ribbon color, palette data is as follows. At this time, MAIN data is output without masking.



◆ In case B/W data
Regardless of ribbon color, palette data is as follows. At this time, MAIN data is output without masking.



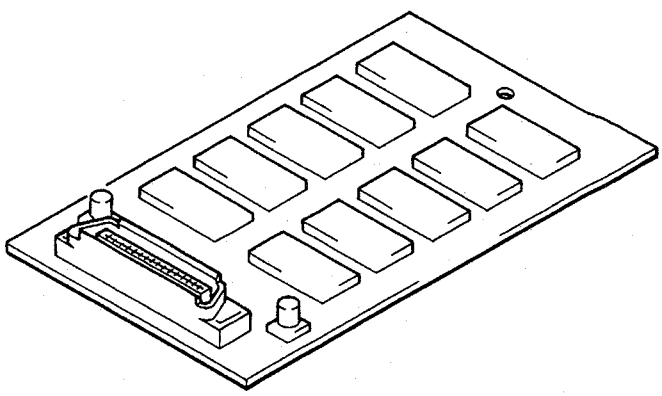
Masking ROM is composed two stages, main ROM (IC104) 8Mbit and sub ROM (IC103) 2Mbit.

SONY

ADD-ON MEMORY KIT

UPK-8801

SERVICE MANUAL



SAFETY RELATED COMPONENT WARNING

Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

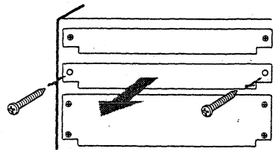
1-1. OVERVIEW

The UPK-8801 is an optional add-on memory expansion card for use with the Sony UP-D8800 digital color printer. This card installs on the memory board of the UPK-8800SC SCSI Interface Kit (sold separately) increasing the printer memory from 10 to 30 MB.

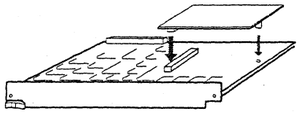
1-2. INSTALLATION

Caution:
Turn off the UP-D8800 and unplug its power cable before installing the card.

1 Remove the two screws affixing the memory board in its expansion slot in back of the UP-D8800, and remove the board.



2 Plug in the memory expansion card.



3 Replace the memory board in its expansion slot in the UP-D8800 as it was before, and replace the two mounting screws removed in step 1.

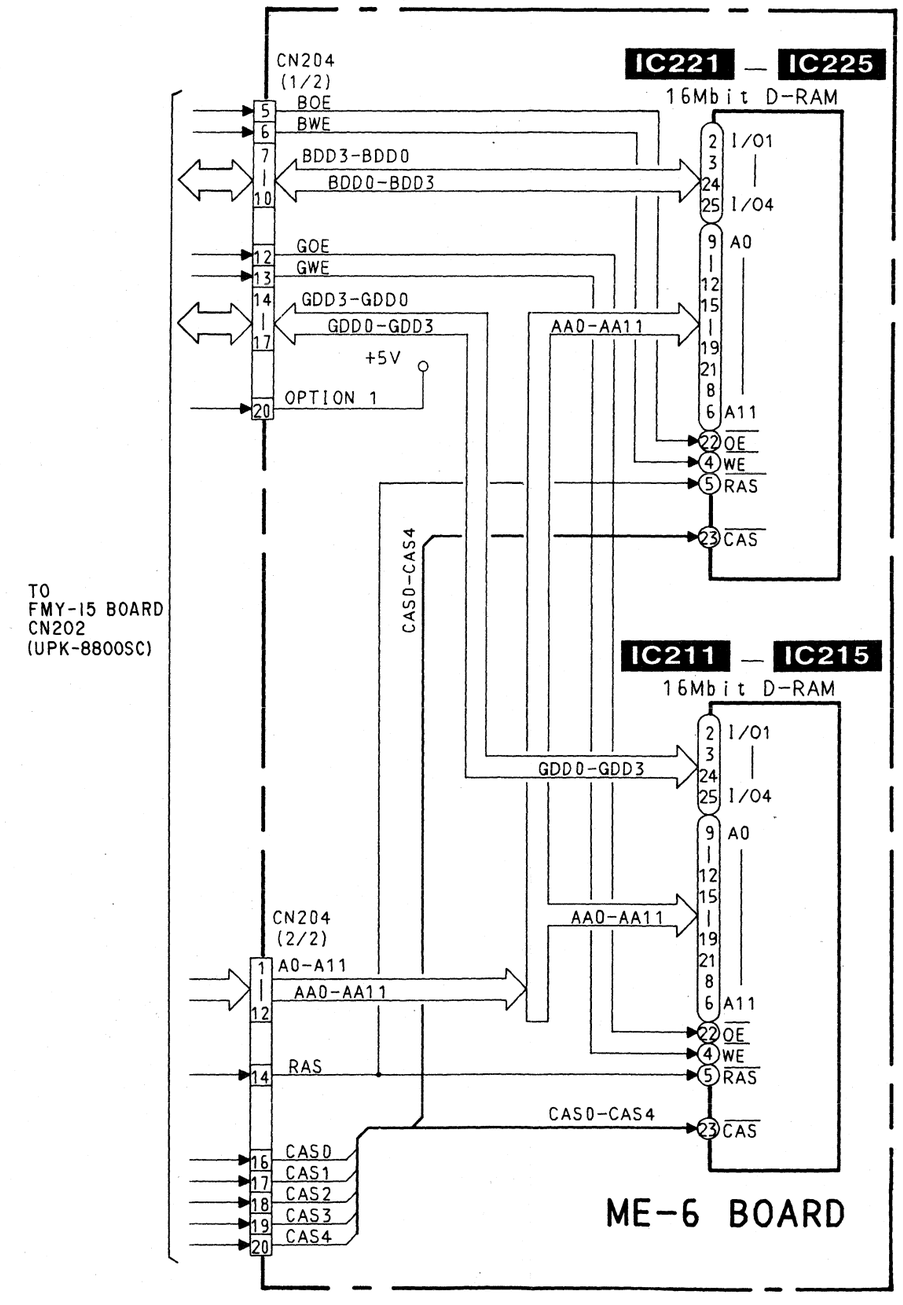
1-3. SPECIFICATIONS

Memory capacity: 20 MB

Design and specifications are subject to change without notice.

SECTION 2
DIAGRAMS

2-1. ADD-ON MEMORY BLOCK DIAGRAM

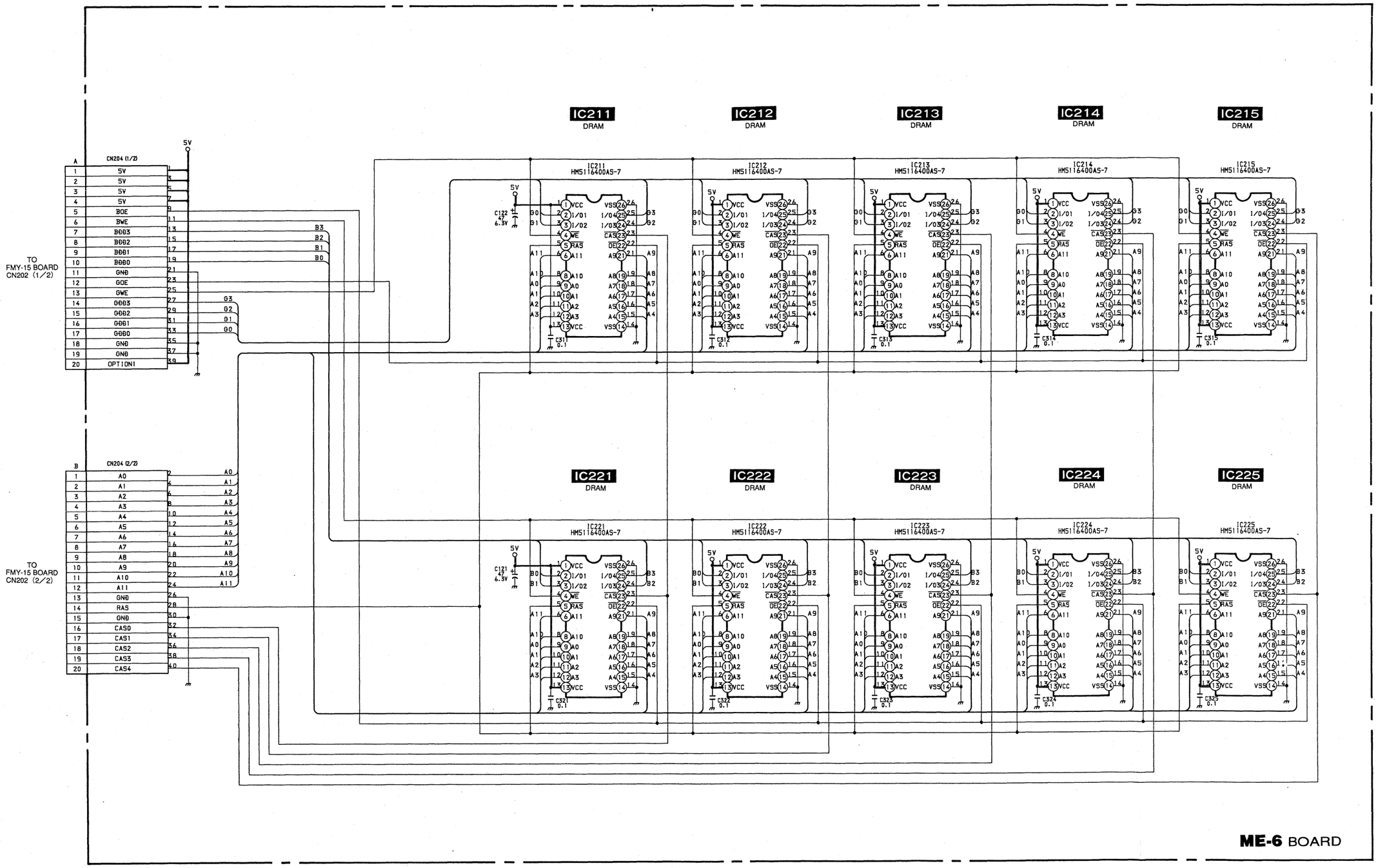


SECTION 3
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS
3-1. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A B C D E F G H I

ME-6 (ADD-ON MEMORY)

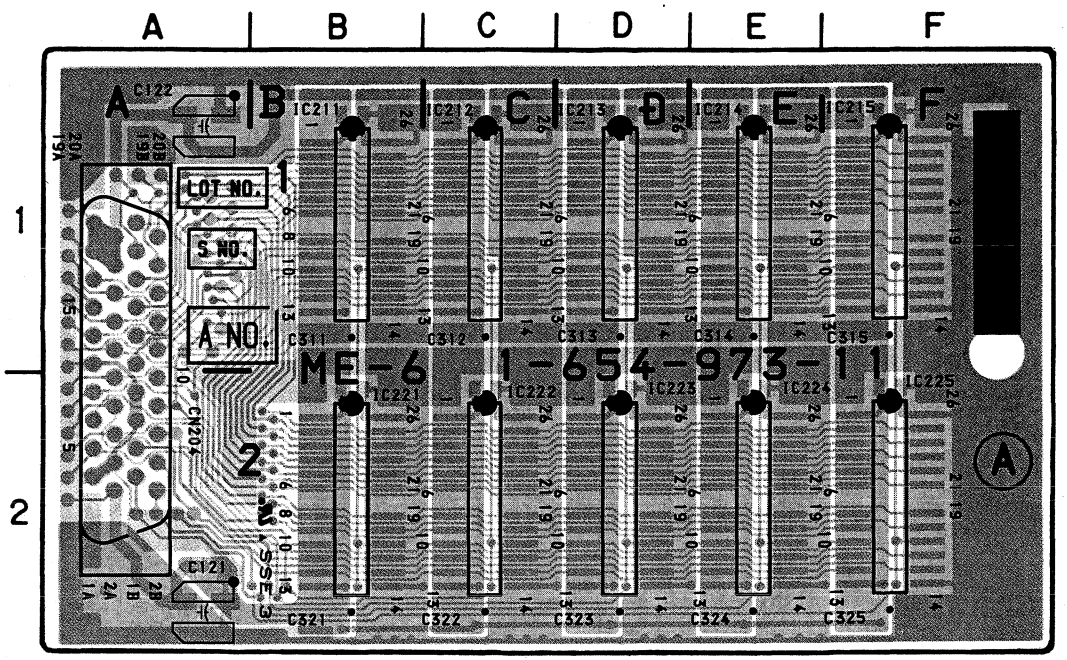


FRAME MEMORY ME-6 FRAME MEMORY ME-6

ME-6 (ADD-ON MEMORY)

ME-6 BOARD

CN204	A-2
IC211	B-1
IC212	C-1
IC213	D-1
IC214	E-1
IC215	F-1
IC221	B-2
IC222	C-2
IC223	D-2
IC224	E-2
IC225	F-2



ME-6 -COMPONENT SIDE-
1-654-973-11

SECTION 4
EXPLODED VIEW

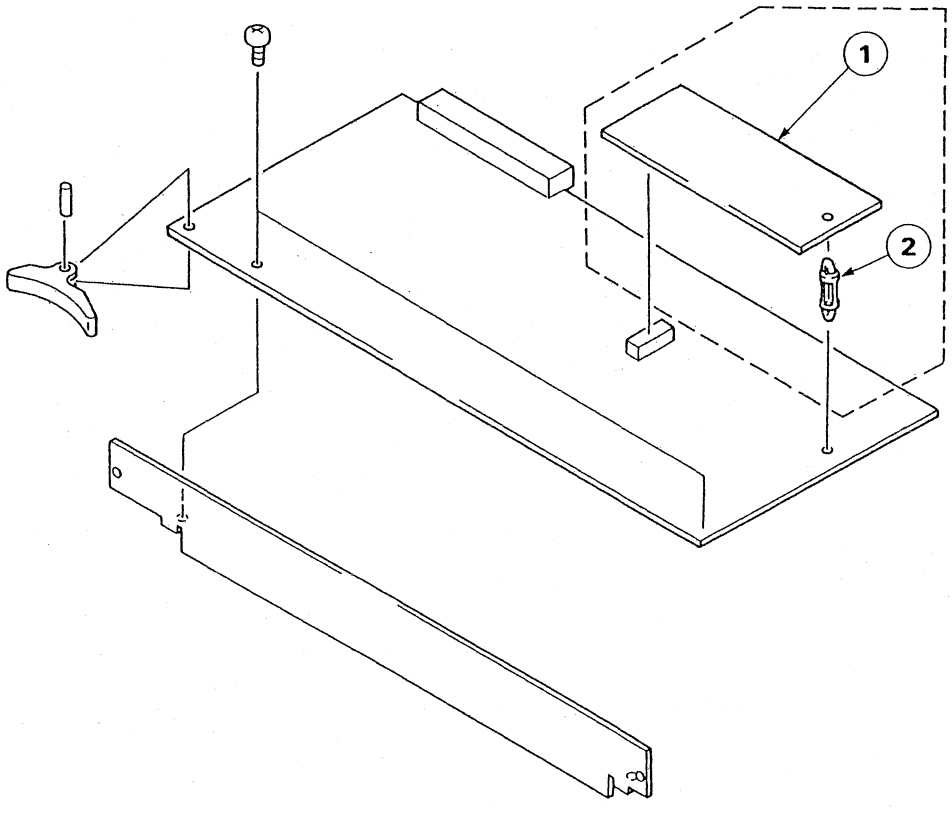
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "O" in the SP column are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

4-1. UPK-8801 (Option)



No.	Part No.	SP	Description
1	1-654-973-11	o	PRINTED CIRCUIT BOARD, ME-6
2	3-682-419-11	o	HOLDER, P.C.B

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
- Items marked "O" in the SP column are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise stated.

When indicating part by reference number, please include the board name.

RESISTORS
- All resistors are in ohms.
- F:non-flammable

CAPACITORS
- MF: μF, PF: μμF

COILS
- MMH: mH, UH: μH

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

ME-6 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-654-973-11	o	PRINTED CIRCUIT BOARD, ME-6
			<CAPACITOR>
C121	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C122	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C311	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C312	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C313	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C314	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C315	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C321	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C322	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C323	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C324	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C325	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
			<CONNECTOR>
CN204	1-770-208-11	o	CONNECTOR, BOARD TO BOARD 40P
			<IC>
IC211	8-759-332-65	s	IC HM5116400AS7GSEL
IC212	8-759-332-65	s	IC HM5116400AS7GSEL
IC213	8-759-332-65	s	IC HM5116400AS7GSEL
IC214	8-759-332-65	s	IC HM5116400AS7GSEL
IC215	8-759-332-65	s	IC HM5116400AS7GSEL
IC221	8-759-332-65	s	IC HM5116400AS7GSEL
IC222	8-759-332-65	s	IC HM5116400AS7GSEL
IC223	8-759-332-65	s	IC HM5116400AS7GSEL
IC224	8-759-332-65	s	IC HM5116400AS7GSEL
IC225	8-759-332-65	s	IC HM5116400AS7GSEL

SUPPLIED ACCESSORIES

Ref. No. or Q'ty	Part No.	SP	Description
2pcs	3-682-419-11	o	HOLDER, P.C.B
1pc	3-798-038-11	s	MANUAL, INSTRUCTION